

CONSUMERS' RESEARCH

Bulletin



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THIS NUMBER is one of 9 BULLETINS issued during the year by Consumers' Research which are not confidential. This BULLETIN may be freely discussed with friends. We hope that you will use the opportunity to show them what CR is doing for consumers.

Symbols used to indicate sources of data and bases of ratings:

A—recommended on basis of quality

AA—regarded as worthy of highest recommendation

B—intermediate with respect to quality

C—not recommended on basis of quality

cr—information from Consumers' Research's own tests or investigations

1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price.**

41, 42—year in which test was made or information obtained or organized by the staff of Consumers' Research.

* * *

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Note: For a detailed account of CR's early history, policies, and information as to the answering of special inquiries about commodities, subscribers are urged to read the INTRODUCTION TO CONSUMERS' RESEARCH, which is sent on request to anyone without charge.

Consumers In Wartime

THE CONSUMER at the present time appears to be in the role of the indulgent father who works hard and pays the bills while Junior and his sister at college join in all the social activities and reap the benefits of father's hard work and self-sacrifice. To amplify the analogy, Junior and his sister in the present situation appear to be Labor with a capital L and the professional Farmer who can afford to support lobbyists in Washington.

A year or two ago, those in government service whose nominal duty it was to defend the consumer and advance his interests were making brave speeches about how in a democracy the military and civilian needs of the Nation could be taken care of without sacrifice to either; we could have both "guns and butter"; and our social gains and the American standard of living would not be sacrificed by production of war materials if skill in planning and management were used. Those ideas about our wartime economy, though widely circulated for months by high government authorities, seem to have been so much moonbeam stuff, and have now been consigned to the wastebasket for nebulous ideas, along with countless other governmental press-releases on paper which *consumers* are asked not to waste.

The consumer, it now seems, is to have no rights or considerations in the war program except to pay all the bills. If some particular consumer happens to be a member of a trade union, he has a right—which few politicians dare question—to increased wages to maintain **his** standard of living. If he happens to be a farmer by occupation, he has a right to higher prices for his produce in order to maintain **his** standard of living. If he is just an ordinary consumer without claim to membership in either fraternity, he has only the limited privilege of complaining about rising prices and scarcity, and mustn't do that too loudly lest he be accused of giving aid and comfort to the Axis and consorting with Fifth Columnists.

Well-meaning but somewhat confused lady-consumer-economists admit on one hand that normally it is wise to buy heavily for future use in a time of rising prices and threatened shortages. On the other hand, they warn consumers not to "hoard" under present circumstances since that is "contrary to national policy," and "in the long run is detrimental to all concerned." One such adviser went so far as to suggest that consumers **must protect their interests in the market place** and yet warned that hoarding must not be tolerated.

The informed consumer who has been following the program of planned scarcity of the New Deal beginning with the "plowing-under" of little pigs, the dumping of surplus oranges to rot, and carefully executed destruction of other surplus crops, will recognize that the shutting down of production for civilian use in factories making electric refrigerators, radio sets, sewing machines, rugs, and other consumer commodities, is quite in line with a doctrine concerned primarily with techniques of restriction of output, and breakdown. The problem of production is one which has never been effectively handled in any country by a highly centralized bureaucracy.

There is no confidence on the part of the intelligent consumers in a bureaucrat's or any other politician's ability to fulfill his promises. The threatened gasoline shortage last fall which turned out to be, in pseudo-technical language, "a shortage of surplus" aroused suspicion in the minds of many consumers that they were being pushed around by officials from Washington, D. C., just to show people what was in store for them as things got worse. The highly "conceptual" gasoline shortage plus the aluminum pots-and-pans drive, which had unfortunate and somewhat

[Concluded on page 24]

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Bicycles

THE LOWLY
BICYCLE,

They Come Back Into American Life

not get suffi-
cient exercise

even a few months ago regarded by most adults as a suitable means of transportation and pleasure only for their younger progeny, is now coming into its own because of the rubber shortage. This shortage, with its consequent curtailment in the use of automobiles for civilian use, has resulted in an enormous demand for bicycles; in fact, some manufacturers report that the demand is many times greater than factory output—a sure indication that the more attentive and close-reading members of the American public have very suddenly become bicycle-conscious. In Chicago, dealers report sales of bicycles are four times as great as last year. Already cycle racks are being provided for the convenience of suburbanites who are using bicycles instead of their cars for local transportation.

From the health standpoint, a return to the bicycle as a means of routine transportation should be a very good thing, for Americans have been overprone to use their cars for very short trips where walking or bicycling would have been more sensible, even necessary for health. (Many of sedentary habits and occupation who realize that they do

have taken up golf, skeet-shooting, or small-game hunting as an aid to getting out of their cars and onto the turf.) In our opinion, the bicycle bids fair to become as significant an item to the American consumer during the depressed years of the wartime, and perhaps for years after, as the automobile has been in the past.

As more adults are forced to use bicycles for transportation, the problem of adequate repair and servicing will become increasingly important. Many people have the idea that, once a bicycle is set up ready for the road, it needs no further attention for a year or so. Actually, this is very far from the truth, for a good bicycle, like an automobile, needs and deserves attention at intervals of every few weeks, when much used, if it is to have maximum life and efficiency in operation. Present bicycle servicing facilities will be entirely inadequate; hence for the present at least, consumers would do well to adjust themselves to the problem of taking care of their own machines. This is not particularly difficult provided reasonable care and common sense are used. It is quite possible that automobile dealers, whose main occupation

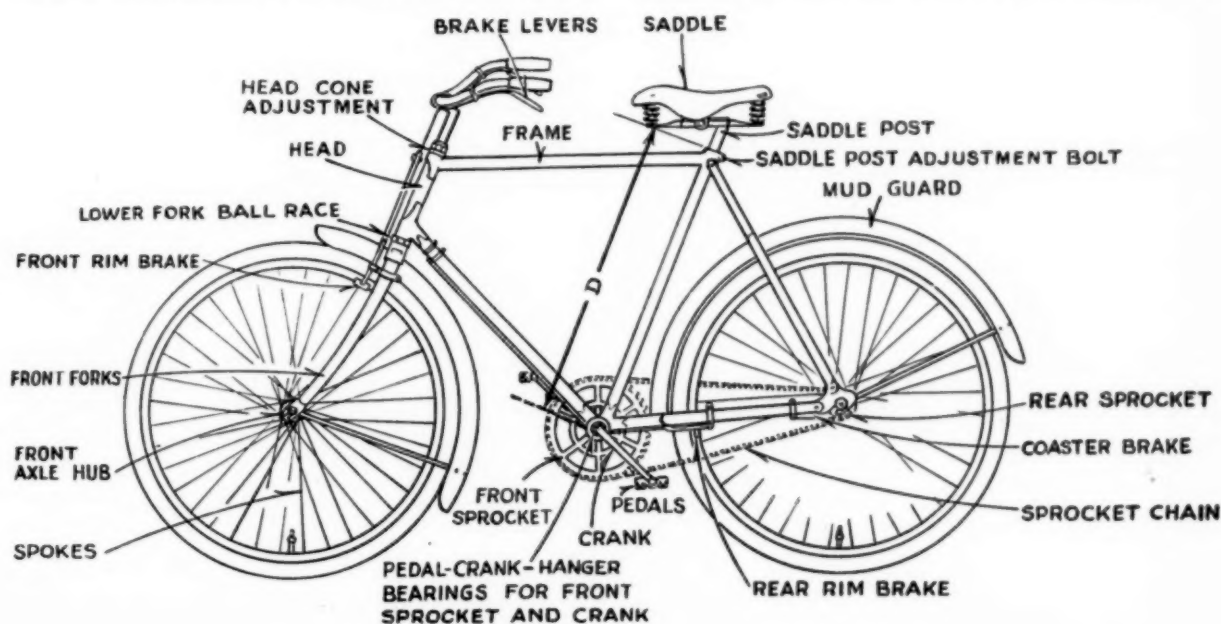


Fig. 1 The principal parts of a bicycle. Distance D gives the frame size.

is now to be the repair and servicing of motor cars, will have to turn to the repair of bicycles in order to augment their drastically reduced incomes. If they do go into bicycle repair work, it is to be hoped that they will not use the methods common in the automobile business in recent years, namely substituting a new or "rebuilt" wheel or coaster brake as a quick and easy substitute for skillful repairing and adjustment of some minor detail of the mechanism.

This article should greatly aid subscribers in purchasing a suitable bicycle; it is expected that other discussions will follow on care, repairing, and safety in operation of the bicycle, accessories (including change-speed gears, coaster brakes, lights, etc.), with some information on the new frugally constructed "Victory" bicycle that is supposed in future to take the place of the designs presently being made and marketed.

Sizes and Gears

Few adults realize that a bicycle must be of the correct size if the owner is to ride it with pleasure and comfort, and with minimum effort. The size of a bicycle is measured by the distance between the top of the seat lug (see Figure 1) into which the saddle-post-adjustment-bolt fits, and the center of the pedal-crank hanger. In general, for standard bicycles for men or well-grown young people, the correct frame size should be equal to the rider's leg length, measured from crotch to heel, less nine inches. If your leg measures 33 inches, a 24-inch frame bicycle would be indicated. This, however, does not seem to apply to the frames as currently produced for American-made women's bicycles; for example, the *Schwinn* ladies' model tested had a frame size of only 18 inches, yet in all other dimensions it was equal in size to the *Westfield* men's model with 21-inch frame. Thus the 18-inch ladies' model could be comfortably used by a person who would require a 21-inch frame in a man's bicycle.

Juvenile bicycles are made in frame sizes from 12 to 20 inches, men's 16 to 24 inches, and women's 16 to 23 inches. Many of the so-called adults' bicycles are much too small for adults of normal stature.

The heights of the saddle and handle bar should be adjusted to give the most comfortable riding position. The height of the handle bars should be such that some part of

the weight of the rider rests on his wrists; the saddle is at such a height that with the ball of the foot on the pedal, the knee has a slight bend with the pedal at its lowest position. One big distributor recommends that the saddle should be adjusted until its top is level with the rider's hip bone as he stands flat-footed alongside of the bicycle.

An important consideration is the **gear** of the bicycle, for on this depends the ease with which the machine can be ridden on hills and against a wind. Simply, the gear of a bicycle is the relation between traveling speed and pedaling speed, and is determined by multiplying the diameter of the rear tire in inches by the number of teeth in the front sprocket and dividing this product by the number of teeth in the rear sprocket. For example, if the outside diameter of the wheel and tire is 26 inches and the front sprocket has 48 teeth and the rear 18, the gear is equal to $26 \times 48 \div 18$, or 69.3. For most riding, a gear between 65 and 70 is desirable; however, lower gears (below 65) have their uses and are very helpful in hilly country or in riding against a strong wind or over a bad or bumpy road. Higher gears (above 70) have their advantage in fast or long-distance riding on level, smooth roads. It can be readily seen that for all-purpose riding, a three-speed or even a two-speed gear which can be changed when desired, to suit road conditions, would be a considerable advantage. Such gears have been available, the best being the English *Sturmey-Archer* three-speed gear, which is a beautiful piece of mechanism that unfortunately may no longer be marketed after present stocks are exhausted. It is not certain whether the manufacture of the inferior American-built change-speed gears will be continued after April 1, 1942.

* * *

Units for converting *New Departure*, *Musselman*, or *Morrow* coaster brakes into two-speed coaster brakes are believed to be available at around \$5.

Types of Bicycles

Prior to the advent of our war economy, there were three general types of bicycles on the market:

1. The typical American bicycle designed not for utility purposes, but for its eye appeal to children. This type is heavy, cumber-

some, crudely made, and replete with useless trimmings and mechanical and electrical gadgets. In the words of one advertiser, it "had everything," but unfortunately most of the "everything" added much weight without serving the primary purpose of efficient locomotion. Parents can set themselves no more useful and interesting educational task than "selling" Junior the grown-up idea that a bicycle is for convenient getting about, and that everything that does not contribute directly and safely to that end should be regarded as no more to the point than rear-view mirrors or stop lights would be on a horse. (Actually, rear view mirrors, and all sorts of fancy electric lighting gadgets, fender flaps, and even speedometers are accessories regularly sold to young American cyclists.)

2. The lightweight bicycle, which is the most logical bicycle for all-round use and was the popular type of bicycle in the early days of the pioneering bicycle industry in America. In European countries where the bicycle is a major means of transportation, the lightweight bicycle is standard, and has been much more highly developed than in this country. Very recently American manufacturers have again concerned themselves, albeit to a small extent, with real bicycles minus trappings, bicycles very unlike the gaudy sorts that had found so much favor with Junior and his sister. Thus a few lighter-weight models with frames of light alloy steel seamless tubing patterned after present-day English and earlier American-style bicycles have been produced, but in very small numbers.

3. Touring and racing type. These are lighter than the so-called lightweights and are intended for enthusiastic cyclists, such as members of bicycle clubs who go in for extensive touring and want to get there fast and not all winded. The touring and racing models are usually equipped with drop-type handle bars, but the desirability of these is still the subject of much controversy. (One school of thought believes this type of handle bar dangerous because the eyes are directed to the ground instead of ahead, with the body in a position least conducive to efficient muscular, heart, and lung action, and to safety in an accident or fall. On the other hand, some consider the lower position assumed by the rider using a drop-type handle bar to be **better** physiologically than that as-

sumed by the rider using high handle bars.) Drop bars have the advantage of decreasing wind resistance. This is of real practical importance in bicycle travel, since wind resistance is a major reason for the muscular effort required in locomotion. They also help to distribute the weight of the rider more evenly between the two wheels, and permit the rider to exert pressure on the pedals most effectively.

Brake Equipment

From the standpoint of safety, brakes on a bicycle can be just as important as brakes on an automobile. With most American bicycles, the coaster brake is standard equipment. This device is incorporated in the rear-axle hub; the braking effect is secured by application of a backward pressure on the pedals by the rider. Such brakes are compact and convenient, but not so desirable as correctly designed and adjusted rim brakes, which not only are more effective and less subject to failure in an emergency, but are more easily and cheaply serviced. There are two types of rim brakes: (1) the **caliper** type (the more desirable), which operates on the **sides** of the rims (in this type the braking effort is transmitted through wire cables encased in a spirally covered casing—Bowden-wires, so called); and (2) the rod-controlled rim brake, which operates on the inner surface of the rims, braking effort being transmitted through rods and levers. With both types, the control levers are located at the handle bar grips. Either can be fitted on most metal-rim bicycles to either or both wheels at an extra charge. Rim brakes do have the disadvantage that in the rain when the rims become wet, some of the braking ability is lost. This is not considered serious, as the amount of riding in rainy weather is likely to be small, and the rims quickly dry when the weather clears, as the water is thrown off by centrifugal action. In order to avoid spills, persons unaccustomed to rim brakes should use them with caution until fully conversant with their action.

Availability of Bicycles

In the fall of 1941, the government ordered that bicycles shipped after December 1 were to be less "tanks," carriers, and horns, and limited each manufacturer's line to ten so-called "Defense Models." Subsequently, a

further order was issued (scheduled to go into effect April 1) prohibiting the manufacture of any bicycles except a special "Victory" model which will be briefly discussed later in this article and more fully in a forthcoming BULLETIN. Last year over 1,800,000 bicycles (comprising about 1,500,000 children's and 300,000 adults' models) were produced in this country. The total production is now to be reduced to 42 percent, and all of these, it is said, are to be adult models of the "Victory" bicycle. No Children's bicycles are to be made for three months beginning April 1, which may mean that the manufacturers will be permitted to produce about three times as many adult models as they did in the corresponding period last year. This latest of a number of somewhat inconsistent government rulings appeared after the BULLETIN had been set into type, but there were conflicts of statement in the announcement, and there were signs of uncertainty in the actual decisions reached. Thus it is reasonable to suppose that a full knowledge of the bicycle production situation will not be available for some weeks or months. Since the rapidly developing and contradictory announcements are bound to produce a welter of rumor and misinformation on the bicycle problem, subscribers will do well to believe a good deal less than they hear or are told by dealers or persons claiming special knowledge on this subject, for the next month or two especially.

If sufficient rubber is made available for tires for the bicycles made prior to April 1, there should be no immediate shortage; yet there are many signs that bicycles are scarce in eastern markets and good bicycles, for adults, practically unobtainable in several cities of good size where the market has been studied. The very best bicycles are hardly to be had any more for immediate or sure delivery, even in such metropolitan cities as New York, Philadelphia, and Boston. Subscribers who expect to need a bicycle will be well advised to make their purchase just as soon as they can find a suitable model, for there would seem to be little doubt that most of the lightweight, simplified bicycles available will be superior to the "Victory" model, the only type that will probably be available after a time, unless the "powers that be" can be persuaded to amend their existing orders. At the present time, these

orders appear to be unnecessarily restrictive and badly conceived, in the light of what has happened, through the extreme scarcity of tires, to consumers of cars and auto tires.

Brief Comments on the "Victory" Bicycle

In order to save such important metals as copper, nickel, and chrome steel, and to reduce the consumption of rubber, tentative specifications have been drawn up by the former Office of Production Management (now the War Production Board) with some degree of collaboration on the part of bicycle manufacturers. According to these specifications, enamel or paint will be substituted for most of the plating. Weight will be reduced by eliminating chain and skirt guards, stands, truss rods, spring forks, luggage carriers, and "tanks," to around 34 lb (31 lb exclusive of tires and tubes). The bicycles are to have a minimum size of 20 inches from the center of crank to top of "saddle post staff" (this is an uncertain term, the 20 in. referred to are probably measured as in Fig. 1, at dimension "D"). Spokes and nipples are to be made of steel, but it is not yet evident whether they are to be plated or given an effective rust-preventive coating, or whether they will be left to rust, in which case they will become useless and non-adjustable very quickly. This point is particularly important and if proper spoke and nipple material is not provided, it is practically certain that the bicycle will not stay in use very long. Tires for the first 3 months are to be 26 x 2 1/4 inches (probably to use up existing stocks), and then a good and efficient size, 26 x 1 3/8 inches. It is likely that the tires will be made entirely or almost entirely of reclaimed rubber. (Bicycle tires are already very scarce, and some types are unobtainable.)

The probability is that only one manufacturer will be allowed to use the name "Victory" on his bicycles, since one maker has that as his registered trademark. (Other manufacturers will presumably market the machines under their own names, with some special model designation.)

CR's Tests

Eight bicycles (four ladies' and four men's models) of well-known makers were chosen for test. Solely because of difficulties in obtaining deliveries, certain other brands, e.g., *Roadmaster*, *Colson*, *Shelby*, *Huffman*, and *Sears-Roebuck's Elgin*, were not included.

The tests were confined to models of fairly light weight, weighing between 34 and 42 pounds. This, as previously pointed out, is the most logical type for practical use.

The ratings were based upon the following tests: Rigidity or stiffness of frame and forks as judged by deflections under standard conditions of measurement in thousandths of an inch per 100 pounds of load; quality of materials and workmanship of pedal-crank hangers and front axles determined by Rockwell hardness of cones, number of balls in bearings, finish of bearing surfaces; quality of steering heads and their bearings (the head is the part of the frame into which the front fork and handle bar stem are fitted) determined by dimensions, method of reinforcement, number of balls in bearings, and quality and finish of races; quality of sprockets as to their hardness and finish of working surfaces; quality of chains, mudguards (including method and adequacy of support), saddles, on basis of spring suspension and materials used; saddle posts; character of frame welds; methods of securing and adjusting rear wheels in forks; paint work and plating; the gear (as previously described); frictional rolling resistance (the method of determining this is illustrated in Figure 2).

In the test measuring the rolling resistances of the bicycles, definite and measurable differences were found between the various brands, but there were differences of the

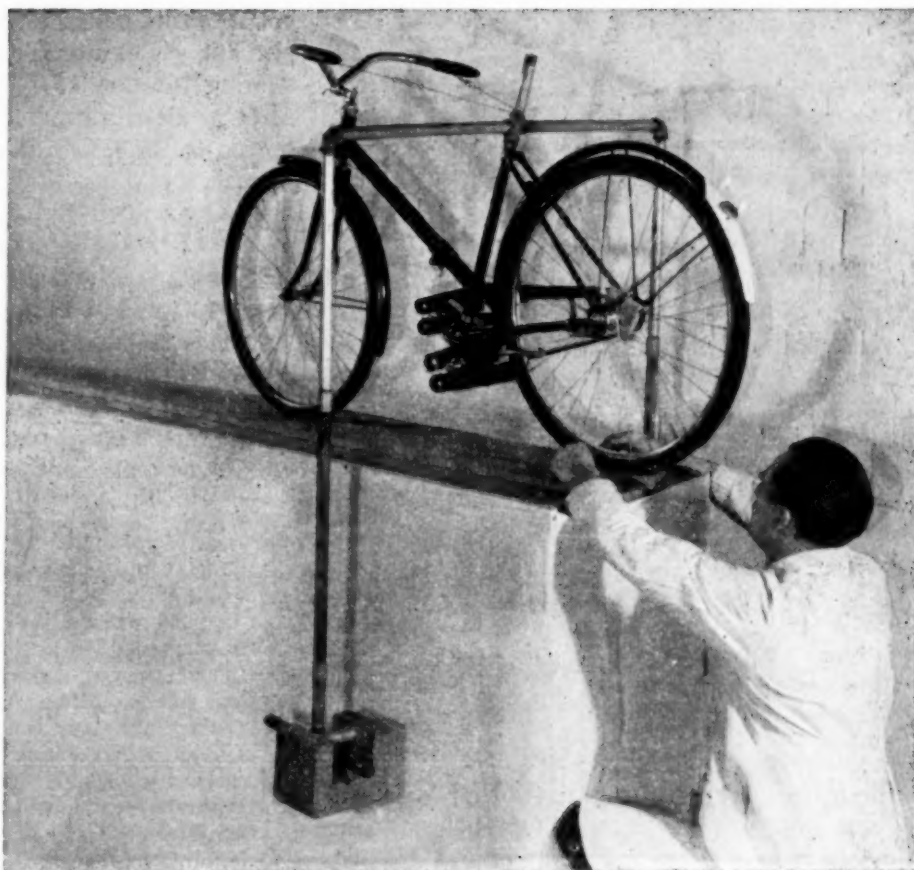


Fig. 2 Test for frictional rolling resistance. The bicycle, with bearings properly adjusted, is loaded with heavy weights well below its line of road contact to hold it in stable equilibrium without wires or other guides. Pedals are weighted to put a load on the crank-hanger bearings. The bicycle is placed on a true, level runway with an incline of small slope under the rear wheel. It is then released without constraints or impetus. The distance traversed by the bicycle along the runway before coming to rest gives a measure (inverse) of frictional rolling resistance.

same order of magnitude between two bicycles of one maker and of almost identical construction, indicating that the rolling resistance of American wheels is large and is also quite variable from sample to sample. A remarkable difference, however, was found in the English-made *Hercules*, whose rolling resistance was extraordinarily low, an advantage, of course, to the rider. The rolling resistance of the *Hercules* was less than half as much as the mean rolling resistance of the seven American bicycles.

Prices

The prices, when given in the listings, were those current at the time the samples were purchased for test. No bicycle price can be regarded as definite or characteristic at the present time, for many dealers, with few bicycles to sell and still poorer prospects for

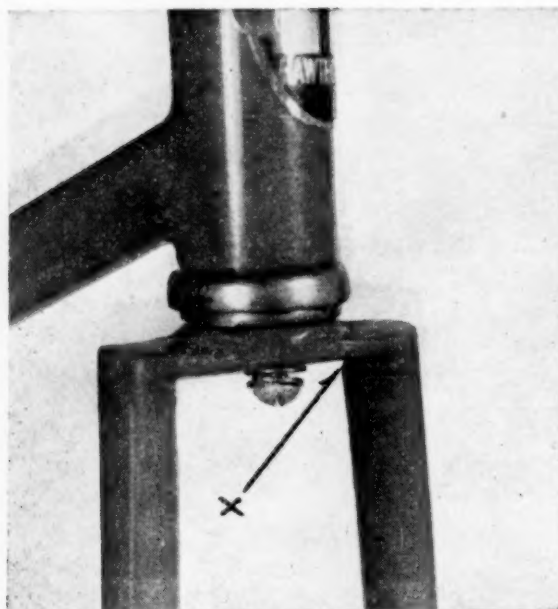


Fig. 3 An example of poor work or poor factory inspection. The fork at "x" has not been properly welded, resulting in obvious weakening of the joint.

the future, and with rent and other overhead costs going on as usual, have been raising prices to protect, so far as possible, their own fast-dwindling incomes. One Philadelphia dealer and one in New York City landed back in the price-level of the '90s in one jump by asking \$100 for English bicycles which used to sell for about \$40 to \$50. Second-hand so-called rebuilt machines were bringing prices formerly asked for fairly good new bicycles. Department stores and others were quoting high prices for mediocre bicycles and often taking orders on a "when-delivered" basis.

On February 21, the War Production Board requested of bicycle manufacturers that the industry make no increases in prices or sug-

gested retail prices for bicycles, bicycle parts, and bicycle accessories above the prices obtaining January 15. In the event prices had already been increased, they were to be restored to the level that prevailed on January 15. A few days later, the bicycle manufacturers were ordered to submit for approval to the OPA their proposed price lists for all new models added after January 15. This, of course, will include prices of the "Victory" bicycles.

Models designated by an asterisk (*) were not tested but are rated on the basis of their specifications plus test results of comparable model, women's or men's as the case may be.

A. Recommended

Hercules, Mens' Model AM (Hercules Cycle & Motor Works, Birmingham, England) \$41.50. Weight 35 lb (one of the lightest tested), 23-in. frame. Gear 69. Equipped with *Dunlop* inner-tube tires, 26 x 1 3/8 in.¹ All parts made in England. Front and rear caliper (the preferred type) rim brakes. Rims, metal, plated. Rear axle had a free-wheeling sprocket, also a fixed sprocket, the latter (requiring removal and reversal of rear wheel) giving direct drive without free-wheeling at a higher (78) gear. Frictional rolling resistance exceptionally low (desirable).

Stiffness of frame and forks, above average (very desirable). Bearings of good quality and finish. *Dunlop* saddle made of molded sheet rubber instead of leather; judged to be of good design and quality. Paint work good, plating very good. This bicycle was outstanding in design, quality, and details, among those tested.²

Iver Johnson, Ladies' Model 95L (Iver Johnson's Arms & Cycle Works, Fitchburg, Mass.) \$44. Weight 34 lb (one of the lightest tested), 18-in. frame (also

¹ There is at least some slight risk in buying imported English bicycles, as present information indicates that American-made tires will not of a certainty satisfactorily fit the English rims, and English-made tires for replacement purposes seem at the moment practically unobtainable. On the other hand the tires with which these bicycles are equipped appear to be of good quality and should have a long life if given proper care. (Care of tires will be discussed in a forthcoming article.)

² This characterization is in general justified in respect to all the English bicycles of better makes as compared with the run-of-the-factory American product, and so far as we have been able to learn, all American-made bicycles of types in wide sale are of a sort adapted to cheap mass-manufacture and assembly of parts, with minimum of attention to individual parts and fittings.



Hercules, Men's Model AM



Iver Johnson, Ladies' Model 95L

available with 20- or 22-in. frame). Gear 64. Equipped with *U. S. Royal* inner-tube tires, 26 x 1 $\frac{3}{8}$. *New Departure* coaster brake. Rims, metal, painted.

Stiffness of forks above average; of frame, average. Bearings of good quality. *Persons* saddle covered with artificial leather; judged to be of below-average quality. Paint work good, plating excellent.

**Iver Johnson*, Men's Model 95D. \$44. Available with 20- or 22-in. frame.

The following A. Recommended imported bicycles have been brought forward from previous tests, as essential specifications have remained unchanged, though in some cases quality of finish and plating and possibly some details of workmanship may have been impaired by the exigencies of wartime production due to lend-lease restrictions. (It is said that these now prohibit the importation of complete bicycles. These restrictions may ultimately be lifted, and in the interest of consumers, they certainly should be, likewise any restrictions that may exist against importation of English-made bicycle tires.) In any event the following ratings of European-made bicycles will be valuable to those who are in a position to buy from the small remaining stocks (or from future stocks that may result from a change in the regulations) or from secondhand sources; in future there will no doubt be a considerable trade in secondhand and rebuilt bicycles of all types and grades.

Raleigh Dawn Safety, Men's Model No. 13 (Raleigh Cycle Co. Ltd., Nottingham, England; H. Osgood, Raleigh Cycle Distributor, 23 Huntington Ave., Boston) \$48 plus transportation, including tire pump and tools. Weight 36 $\frac{3}{8}$ lb, 20- or 22-in. frame. Equipped with 26 x 1 $\frac{3}{8}$ inner-tube tires.¹ Rod-controlled rim brakes² operated by levers at handle bar. At present out of stock, but may be available secondhand.

Raleigh Tourist, Model No. 21 (Raleigh Cycle Co. Ltd.; U. S. distributor, H. Osgood, 23 Huntington Ave., Boston) \$57 plus transportation. 22- or 24-in. frame. Equipped with 3-speed hub, advantageous in hilly localities, and gear case. Rod-controlled hand-operated rim brakes on both wheels.² Steel rims with *Dunlop* inner-tube-type tires, 28 x 1 $\frac{1}{2}$ in.¹ The distributor states that this model is now out of stock; however, may be available secondhand.

**Raleigh Juniors*, Boys' Model No. 29, Girls' Model No.

¹ More effective than coaster brakes but not so desirable as the preferred Bowden-wire caliper-type rim brakes.

30 (H. Osgood, Raleigh Cycle Distributor, 23 Huntington Ave., Boston) \$42. 18-in. frame. Equipped with inner-tube tires, 24 x 1 $\frac{3}{8}$ in.¹ Rod-controlled rim brakes.² Not tested in laboratory, but on basis of its construction and a 3-year test of hard use, and by experience with other bicycles of this make tested, judged very satisfactory (though expensive) bicycle for an active girl or boy. Probably should not be a first bicycle for a youngster who, especially if careless or inconsiderate of his belongings, should exercise his first bicycling energies on a bicycle of low or ordinary grade.

B. Intermediate

The following bicycles rated B. Intermediate were judged only slightly less desirable than the *Iver Johnson*. Differences were in numerous small details of quality. They would not be important differences to a person needing a bicycle merely for occasional or ordinary use, or for a person not caring greatly about mechanical finish, workmanship, and niceties of design. (Note that in general a grown person who is not particularly strong needs a bicycle of better quality than the rider who has muscular energy to spare.)

Compax Sport Traveler, Model F92 (Westfield Mfg. Co., Westfield, Mass.) \$38.20. Universal model suitable for both women and men. Weight 42 lb (the heaviest model tested), 18-in. frame. Gear 64. Equipped with *U. S. Royal* inner-tube tires, 26 x 1 $\frac{3}{8}$ in. *New Departure* coaster brake. Plated rims.

Handle bars of a folding type, and frame constructed of two parts with special locking arrangement



Compax Sport Traveler, Model F92 (with front and rear parts separated)



Ranger Lightweight, Ladies' Model



Schwinn, Ladies' Model W1L



Westfield, Men's Model No. F95



Hawthorne, Men's Model



Rollfast Lido Lightweight, Men's Model V-511

permitting bicycle to be folded for storage or transportation, i.e., in trunk of car. Frame and forks not so stiff as those used on standard type of women's lightweights, but judged satisfactory for persons of normal weight. Two-part frame construction probably not yet fully proven by experience, but its design at the joint or connecting part seems practical and sufficiently strong. Bearings of good quality. *Mesinger* saddle covered with artificial leather; judged to be of satisfactory quality. Paint work and plating good.

Ranger Lightweight, Ladies' Model (Mead Cycle Co., Chicago; made by Arnold, Schwinn & Co. for Mead) \$37. Weight 38 lb, 20-in. frame (also available in a man's model with 21-in. or 23-in. frame). Gear 66. Equipped with *Goodyear* inner-tube tires, 26 x 1 1/4 in. *New Departure* coaster brake. Built-in locking device at top of front fork locks the steering. Rims, metal, plated.

Stiffness of frame below average; of front forks, about average. Bearings of about average quality, but one cone of pedal crank bearing was plated after hardening; this plating wears off, introducing dust into bearing. *Mesinger* saddle covered with artificial leather; judged to be of satisfactory quality. Paint work good; plating good except on front axle, which was poorly finished.

Schwinn, Ladies' Model W1L (Arnold, Schwinn & Co., 1718 North Kildare Ave., Chicago) Weight 38 lb, 18-in. frame (catalog states available with 17- or 19-in. frame only). Gear 66. Equipped with *Schwinn* inner-tube tires, 26 x 1 1/4 in. *New Departure* coaster brake. Rims, metal, plated. This bicycle was practically identical with *Ranger*, except that it lacked the fork lock and was equipped with a lower-grade saddle and tires of a different brand.

**Schwinn*, Mens' Model W1M (Arnold, Schwinn & Co.) Available with 18-, 21-, or 23-in. frame.

**Schwinn*, Models W3LFC and W3MFC (Arnold, Schwinn & Co.) Essentially the same as W1L and W1M respectively, except was equipped with desirable front and rear caliper rim brakes, instead of coaster brake, and the more desirable 3-piece instead of 1-piece crank-hanger set.

Westfield, Men's Model No. F95 (Westfield Mfg. Co.) \$31.70. Weight 38 lb, 21-in. frame (also available with 23-in. frame). Gear 57 (somewhat lower than average). Equipped with *U. S. Royal* inner-tube tires, 26 x 1 3/8 in. *New Departure* coaster brake. Rims, metal, plated.

Stiffness of frame and forks above average, but head construction less sturdy than on other B-rated bicycles. Bearings of average quality. *Troxel* saddle covered with artificial leather; judged to be of below-average quality. Paint work and plating, good.

This make also sold as *Columbia* and *Pope*.

**Westfield*, Ladies' Model No. F96 (Westfield Mfg. Co.) \$31.70. Available with 18- or 20-in. frame.

C. Not Recommended

Hawthorne, Men's Model, Montgomery Ward's No. 160—3068; comparable Ladies' Model, No. 160—3070. \$26.95 plus freight. Weight 38 lb, 21-in. frame. Gear 62. Equipped with *Wards Riverside* inner-tube tires, 26 x 1 3/8 in. Rims, metal, plated. *New Departure* coaster brake. 1-in. pitch chain; not so desirable as 1/2 pitch with which all other bicycles in test were equipped.

Stiffness of frame, average; of forks, lowest in test. Hanger and front axle bearings below average. Head construction poor. *Troxel* saddle covered with artificial leather; judged to be of below-average grade. Paint work fair, plating poor. Considered to be essentially a cheapened model of the *Rollfast*. This model is now out of stock at a Montgomery Ward's mail-order house.

Rollfast Lido Lightweight, Men's Model V-511 (D. P. Harris Hardware & Mfg. Co., 99 Chambers St., N.Y.C.) Weight 37 lb, 21-in. frame. Gear 62. Equipped with *Fisk* inner-tube tires, 26 x 1 1/4 in. Rims, metal, plated. *New Departure* coaster brake.

Stiffness of frame, average; of forks, below average. Construction in general, slightly better than *Hawthorne*. *Troxel* saddle covered with artificial leather; judged to be of below-average grade. Paint work good, plating fair.

Home Gardening Is Necessary for Full Vegetable Production

by WARREN B. MACK

HOME VEGETABLE GARDENING, always recommended for families who have access to suitable land, has become an absolute necessity if vegetable consumption is to be maintained. Numerous conditions are contributing to this necessity, some of which may be mentioned: the farm labor supply has been reduced by 28 percent since June, 1940; shipping facilities, both rail and truck, have been diverted to military uses; processors of fruits and vegetables are being requested to set aside approximately 30 percent of their expected 1942 packs for government requisition, and, though goals 42 percent above the 1936-39 average have been set, there is no assurance that they will be attained; military developments are extensive in the southern and western regions, from which much of the out-of-season vegetable supply of the northern states is obtained; evacuation of Japanese from the Pacific coast will reduce the production of vegetables to the extent to which Japanese were engaged therein; a considerable part of the commercial vegetable crop, both fresh and processed, will be distributed among the military and civilian populations of allied nations who may be considered to need them.

Advantages of home vegetable production, when suitable soil is accessible for that purpose, are well known, but may be summarized briefly here. Chief among them is the fact that home-grown vegetables may be harvested in their prime edible condition, which in many cases is also the time of their maximum nutritive value. No one can possibly appreciate the significance of this statement unless he has compared freshly harvested peas, asparagus, sweet corn, snap beans, melons, or fully ripe tomatoes with those which have passed through the ordinary commercial channels. Another advantage is that the time and effort of family members may be directed effectively toward the reduction of living costs, in a healthful, stimulating way; the exercise and exposure to sunlight and open air associated with gardening make this a leading outdoor recreation.

Garden Sites and Soils

On farms or wherever there is latitude for selection, the most fertile, well-drained soil which is reasonably accessible to the house should be chosen. The site should be level, exposed to direct sunlight throughout the day, or at least for seven or eight hours, and well removed from large trees. Free movement of air, or what is known as air drainage—that is, freedom for cold air to flow downward from the site especially during the night—is desirable, both to avoid late or early frosts and to reduce somewhat the danger of fungus diseases.

Certain vegetables can be grown successfully on practically any agricultural soil, such as dry shell beans, sweet corn, tomatoes, peppers, squashes, pumpkins, and turnips. Leaf crops, including salads and greens, onions, members of the cabbage tribe, beets, and the longer roots require more fertile, deeper soils which are not too heavy or clayey.

For best success with a wide variety of vegetables, a soil of medium texture—not extremely sandy nor clayey—of which the topsoil is at least 8 inches deep and of moderately low acidity, is to be preferred. Avoid thin topsoils, filled-in plots, eroded sites, and soils that have been idle or in sod for several years. The latter can be brought into use for gardening by fall plowing.

Lime requirement or acidity may be tested by county agricultural extension representatives (county agents).

Area Required

For production under average conditions of the year-round vegetable supply of the family, about 1000 square feet is the requirement for each member of the family. Fertile soil and skillful management will reduce this requirement.

Warren B. Mack, Ph. D., head of the Department of Horticulture in the School of Agriculture at The Pennsylvania State College, is well known for his professional work in the special field of culture and nutrition of vegetable crops.

Choice of Vegetable Kinds and Varieties

The kinds of vegetables to grow are determined by the dietary habits of the family in respect to other foods, family preferences, the kind of soil, and the extent to which the family is dependent upon the garden for its vegetable supply. Under present conditions, emphasis should be placed on kinds and varieties which may be stored or preserved for out-of-season use; it is to be expected that our markets will be best supplied during the season when locally grown produce is most available.

Ordinarily, brief lists of varieties recommended by the various agricultural services should be consulted. At present, as seedsmen point out, gardeners may be obliged to accept substitute varieties, because most of the recommended varieties are those preferred by commercial growers also, and certain of these, limited in supply to begin with, are exhausted already.

To accept the recommendation of the seed trade, however, that new gardeners take whatever is offered by local dealers, as representing the best judgment of seedsmen as to what is most suitable for culture in each locality, is to take a great deal for granted.

Probably the best course for new gardeners to follow is to buy seeds cooperatively, consulting whatever county or local sources of expert information are available, particularly county agents, as to acceptable substitute varieties for those on the recommended lists, if these become exhausted.

Fertilizers and Other Supplies, Tools

For home gardeners on medium soils, either well-rotted barnyard manure or chicken manure well incorporated with the soil as early as it can be worked satisfactorily, at the rate of 500 lb. of the former or 200 lb. of the latter to 1000 square feet is the best fertilizer, if obtainable. Complete commercial fertilizers, or those containing available nitrogen, phosphoric acid, and potash, with analyses ranging from 3 to 5 percent of the first, 10 to 16 percent of the second, and 4 to 10 percent of the third, are generally available in garden supply stores. Use at the rate of about one pound to 30 to 50 square feet.

Lime should be applied if tests show a need for it, at the rate indicated by the tests. Both fertilizer and lime should be well in-

corporated in the soil, separately, for complete safety. Fertilizer should not be applied directly with the seed or in contact with plants, though a part of it may be applied in small trenches alongside the row or around hills, at a distance of 2 or 3 inches from them, and covered to a depth of 2 or 3 inches.

As to insecticides, rotenone preparations are useful for chewing and sucking insects appearing on the surface of the plant. Boring or tunneling insects and those working under the ground must be combated by special measures, of which the removal of trash, coarse weeds, and plant refuse from the garden and its surroundings is an important one.

Sturdy, well-made tools with handles long enough to permit the user to work in an erect position should be chosen. Tools that are used occasionally or for relatively short periods, such as dusters for insecticides or wheel hoes, may be purchased jointly with neighbors; hoes, hand weeder, and the like should be owned by the individual family. A garden to supply a family of five needs about 200 hours of work by an average person, or 1 hour a day throughout the growing season, and one cannot afford to be hunting over the neighborhood for tools.

Plants

In general, the home gardener had best purchase early plants, unless one has special facilities for plant growing and experience in it.

Garden Plans

Information on kinds and amounts to grow for different dietary requirements, spacing, relative time of planting, and time of maturity of the different vegetables is readily obtainable from county agents, state agricultural colleges, and in many cases from Victory Garden Committees which have been organized recently under county and local defense councils. From such information, an actual plan of the garden should be drawn on paper, showing kinds, dates of planting, row widths, and succession plantings.

Soil Preparation

Soil should be deeply spaded or plowed, then firmed to close large air spaces and to break clods. This is done by rolling, harrowing, or breaking clods with a spade and raking thoroughly. The surface should be left

smooth enough to facilitate marking, opening of drills for seed, or ready transplanting. It is not necessary to have the soil as smooth as a new lawn nor very loose. Roots extend very well in fairly compact soil, provided it is well drained and aerated.

Planting

Plant in straight rows, using twine stretched on pegs set at the ends of the row as a guide. Open a shallow drill or channel for the seed, to permit covering sufficiently that the seed will remain moist until germinated, but not so deeply that seedlings will have difficulty in emerging if the soil is firmed by rain. For small seeds, $\frac{1}{4}$ to $\frac{1}{2}$ inch is enough; firming of the soil above the seed, either by stepping upon it or tamping with a hoe, will insure good contact with moist soil. Larger seeds, such as beans, corn, squash, and the like, may be covered more deeply, though it seldom is necessary to cover more than $1\frac{1}{2}$ inches, except potatoes, which ordinarily are covered 3 or 4 inches.

Plants should be set slightly below the level at which they stood in the plant bed or flat. Soil should be firmed well about the roots, though care should be exercised not to bruise or crush the stem.

Cultivating and Weed Control

The chief purpose of cultivation of growing crops is to control weeds, not to loosen the soil. Light scraping of the surface before the weeds have become established is the best method; roots of the cultivated crop should be disturbed the least possible. If a soil cracks badly on drying, breaking the surface so as to fill the cracks may be helpful.

Insect and Disease Control

It has been stated that most of the steps necessary to control diseases should have been taken before the seeds or seedlings are placed in the garden. Celery, cucumbers, and melons, however, require some application of fungicides during their growth, to secure crops of satisfactory yield and quality.

Many chewing insects can be kept in check by hand picking; others, and the sucking insects generally, require applications of insecticides. Rotenone preparations, preferably in dust form, are recommended for home garden use.

Directions on control of the major insect pests and diseases may be obtained from

state and county agricultural extension services.

Storage

Root crops, cabbage, and celery are stored in the garden by pitting or banking with a covering of some protective material, such as boards, paper, leaves, straw, or cornstalks, and then covering with sufficient soil to exclude frost. When the covering of soil is frozen nearly to the contents of the pit or bank, a layer of some insulating material, such as leaves, straw, etc., is placed over the surface.

References

► Victory Gardens, U. S. Dept. of Agriculture Miscellaneous Publication No. 483. Free from the Office of Information, U.S.D.A., Washington, D. C.

► Plan the Vegetable Garden, Leaflet No. 73, and The Home Vegetable Garden, Circular 230, The Pennsylvania State College School of Agriculture and Extension Service, State College, Pa. (Similar publications are available from the state agricultural college or extension service of each state, and may be obtained from county agricultural agents or from the college.)

► Control of the Diseases of Vegetable Crops, Circular 173, and Insects Attacking Vegetables, Circular 122, The Pennsylvania State College School of Agriculture and Extension Service.

Thus Man Contrives His Own Undoing

There was a time when men were content to grind their corn and use the flour as it came. It was good flour, but brown. They wanted it white, for reasons of social prestige So an important part of the grain was removed, that part which contained the vitamin B, just as the husk was removed from the rice by polishing, or as the fat is carefully cut from the meat by the American butcher, or as much of the value of food is removed by refrigeration, by canning and by the various modern devices whereby we manage to make stale food appear as fresh. Thus man contrives his own undoing. Thus he pays the miller to remove the best part of the wheat, pays the scientist to find out what he's done, pays the chemist to make it for him again, and pays the miller to put it back. And we say that man's greatest asset is his power of reason!—Reprinted from *Behind the Mask of Medicine*, by Miles Atkinson, by special permission of the publishers, Charles Scribner's Sons, 597 Fifth Avenue, New York City, \$3.

Operation of Hand-Fired Heating Plant in Mild Weather

Including Care When Not In Use

IN WARTIME it is the duty of each householder to give careful attention to the care of his heating plant, for fuel is expensive and heating equipment is not only difficult to replace but some parts may even become unobtainable as shortages become worse. The heating plant will get the maximum amount of heat from the fuel only when the plant is in good condition and when it is operated according to tried and proved methods.

The general rules for operation and taking care of a heating plant in spring and summer are the same as for fall and winter, but infractions of the rules produce more drastic results. The flues should always be kept free from excess soot and fly ash (fire ash) by frequent cleaning with a wire brush. (Use of chemical soot removers does not obviate the necessity of cleaning with a wire brush, and in general chemical methods of cleaning or soot removal are not considered worth the expense and effort.) The chimney, smoke pipe, and furnace or boiler should be air-tight and admit air only through the proper openings. Ashes should be removed frequently enough so that there are always at least a few inches of air space below the grates. This space is needed to provide free flow of air to the fire and to keep the grates from becoming too hot, and hence subject to earlier-than-normal failure or burning out. These two rules—keep the heating plant **clean** and keep it **tight**—are the most important of all, and satisfactory results in spring and summer use of the boiler and furnace cannot be obtained unless they are observed.

When it is desired to run a low fire in summer weather, a satisfactory draft usually cannot be maintained unless air leaks above the fire are eliminated. Leakage of air through tiny cracks between the sections of a boiler or around the furnace door or a cleanout door or through poorly fitting sections of the smoke pipe or cracks in the chimney will spoil the draft so that a slow fire will die. Instead of correcting the trouble, householders often try to overcome this by burning the fire at

a higher rate than needed, and thus waste fuel and keep the house uncomfortably warm on mild days.

Cracks around the joints of the smoke pipe or between sections of the furnace should be filled with furnace cement. If there is a considerable opening around the shaker rod or lever where it passes through the walls of the ashpit, that can be partly stuffed with steel wool. On new furnaces the doors have been ground to make a tight fit. If the contact surfaces have become rusted and roughened, the condition can usually be corrected easily by some smoothing of uneven parts with a file. Be careful not to overdo this, and do not take off more than is necessary to correct the bump or lump of metal or rust which prevents tight closing. Suspected air leaks around the furnace structure or at smoke-pipe joints or where the smoke pipe connects to the chimney, can be detected, if significant in amount, with the aid of a candle flame. Such a test should, of course, be made while the furnace is operating and the smoke pipe and chimney are hot.

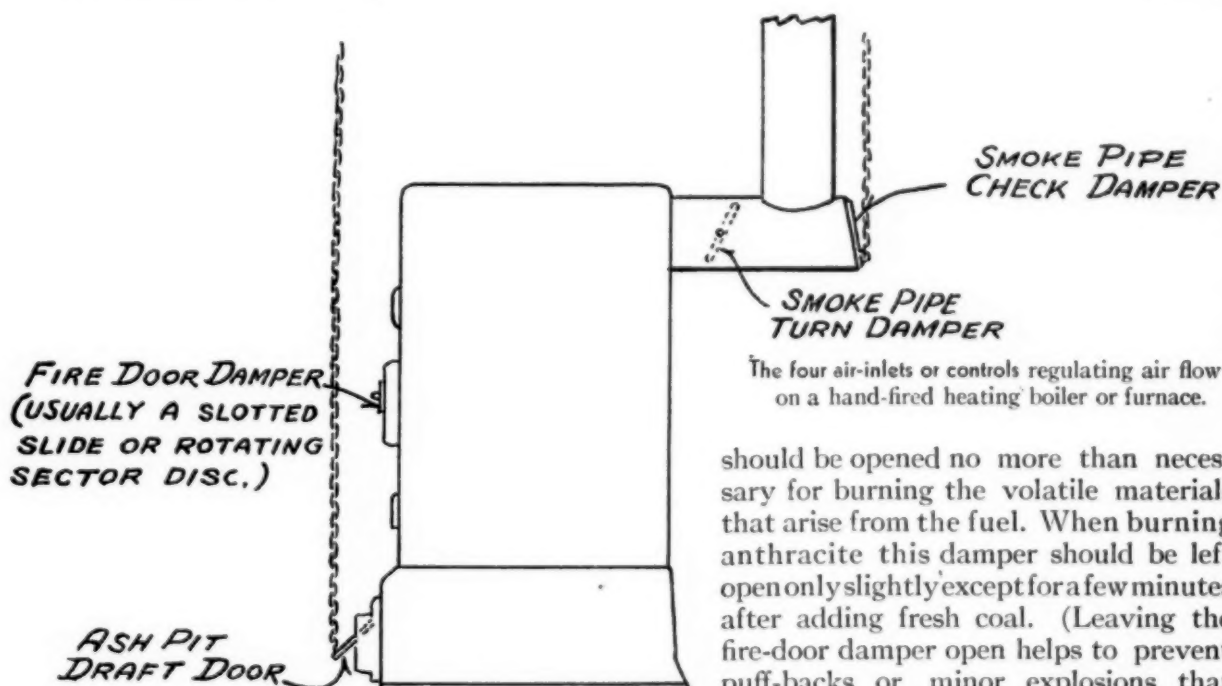
With a good chimney and tight boiler it has been found possible to maintain a very low fire—indeed, one so low that the coal is burned at only 1/20th of the full heating rate of the equipment. Incidentally, a low fire in a house-heating boiler equipped with an indirect domestic water heating unit is a practical way of heating service water throughout the summer, provided heat is shut off from the upstairs radiators. This practice has the distinct merit of greatly reducing deterioration of the furnace by rusting, the chief cause of depreciation during the summer. It also provides for a little heat occasionally needed even in summer on chilly days in northern states, especially on and near the coast.

When the boiler is used in this way, it is desirable that it and the domestic hot-water piping should be well insulated in order to prevent needless heating of the cellar or basement. This is disadvantageous in many

ways, particularly where foods, rubber goods, or other materials are stored. (Nearly all of such materials deteriorate more rapidly at high than at low temperatures.) The absence of dampness, however, in a basement in which there is a slow-burning heating boiler is an advantage for most kinds of storage and almost an essential where old radio sets or other fine or valuable electrical equipment or appliances are to be stored for some weeks or months. Elimination of dampness is also very advantageous where there is a home

shaken much less and less often in warm than in cold weather. Do not try to hold back the fire by putting ashes on top of it, either in summer or in winter.

Control of the fire is accomplished in summer, as it is in winter, by regulation of the ashpit draft door and the smoke-pipe check damper. To make a hotter fire, the draft is increased by closing the smoke-pipe check damper and opening the ashpit draft door. The opening in the fire-door, which admits air to the space above the burning fuel,



workshop in which valuable tools may be ruined or greatly depreciated by a relatively small amount of rust, or where there is children's or grown-ups' play equipment in basement game rooms.

When firing a furnace in warm weather many furnaces will require a fairly deep ash bed below the live coals in order to keep the fire from burning too fast. The actual depth may be five or six inches, but it depends upon the kind and size of fuel used, and upon the height and condition of the chimney; it must be determined by trial. In winter, a fairly coarse fuel may need to be used in order to obtain enough draft to handle the heating-load in the coldest weather. In summer or mild weather, a finer and cheaper fuel will do just as well or better by helping to hold back the fire against too rapid burning. As a rule, the furnace grates will need to be

should be opened no more than necessary for burning the volatile materials that arise from the fuel. When burning anthracite this damper should be left open only slightly except for a few minutes after adding fresh coal. (Leaving the fire-door damper open helps to prevent puff-backs or minor explosions that often occur when the gas given off by the fuel suddenly catches fire. For maximum efficiency the fire-door damper is best closed completely about an hour after refueling, or when the newly added coal is well aglow.) With bituminous coal, more air must be admitted above the fire than with anthracite coal, particularly at times when fresh fuel is added. Leaving the fire-door damper open more than necessary wastes heat up the chimney. One should make it a habit, when adding fuel to a fire, always to leave a visible spot of glowing coal so as to provide for ignition without a puff-back, or explosion of the gases which distill from the fresh fuel. The amount of opening of the smoke pipe turn-damper should be determined by trial and error. In general, it should be left open only as far as necessary to obtain a sufficient rate of burning to handle the heating load.

Operation of a hand-fired heating plant is

something of an art, though a very easy one after the necessary habits are acquired, and especially if the plant is one which is kept in good condition. The objection which many people have to firing by hand is not the labor but the uncertainty of operation. Manufacturers, if they will fully utilize resources of scientific research, will no doubt be able to construct boilers and furnaces which will operate without skilled attention, but in the meantime the homeowner himself can accomplish much in reducing the uncertainties of operation of his present plant if he will keep it **clean** and **tight**. In every case the homeowner should learn something about the heating plant for himself. It is not a problem that can be solved by simply calling in a serviceman and saying, "Here, put this in good condition for me." Some servicemen—perhaps many—will know less about the subject than the intelligent reader can learn from this single article, and some others may not be so scrupulous as to refrain from doing or at least collecting for servicing or alteration work that was not actually needed.

If the fire is to be let out during the summer, care should be taken to protect the furnace and pipes from rusting, particularly at this time when it is most important that materials be conserved. To reduce damage from rusting, soot and fly ash (which have an acidic or corrosive reaction) should be removed from the surfaces to which they adhere, by using a wire brush in the burning space and flue passages of the furnace. Ashes should be taken out and the ashpit carefully swept. The smoke pipe should be removed and cleaned of soot and then stored in a dry place. Since close-fitting doors are necessary for efficient operation of a furnace, special care should be taken to prevent their rusting. A good way is to cover them with automobile grease, especially along the edges. Oil tends to leave vertical surfaces where it is smeared, but a film of the heaviest grade of automobile crankcase oil will certainly be useful if no better material is at hand. Some manufacturers recommend that the doors be left closed and that a pan of unslaked lime be placed in the ashpit to help absorb moisture that might otherwise be condensed on the metal surfaces when the temperature falls below the dew point on a moist day. It is **not** desirable to draw off water from the boiler and piping of a steam or hot-water

heating system, except for cleaning, when necessary, and this, if done, should be done at the beginning of the heating season.

If these simple rules are followed, if the furnace and boiler are kept **clean** and **tight** and if **rusting is prevented**, the average heating plant can be made to operate much more reliably and will continue to give many years of satisfactory service.

References

- ▶ Securing a Maximum of Satisfaction from Anthracite Burning Equipment. Laboratory Bulletin No. 23. An excellent bulletin for those who burn anthracite. Free from Anthracite Industries, Inc., 405 Lexington Ave., N.Y.C.
- ▶ Buying and Burning Bituminous Coal. 10 p. 5c from Superintendent of Documents, Washington, D. C.
- ▶ Questions and Answers for the Home Fireman, U. S. Department of the Interior, Bureau of Mines. 10c from Superintendent of Documents, Washington, D. C.
- ▶ How to Burn Ohio Coals in the Home, Engineering Experiment Station Circular No. 17, September 1929. Free from the Ohio State University, Columbus, Ohio.

Another Suit Tested

THE FOLLOWING LISTING of a man's suit may be added to those given under "Men's Suits and Suit Fabrics" in the September 1941 ANNUAL CUMULATIVE BULLETIN. In accordance with the conditions set forth in sections 23-24 of the INTRODUCTION TO CONSUMERS' RESEARCH, the A. B. Joffe Co. arranged to have a suit of their make bought and tested by an independent commercial laboratory following methods which were specified by CR. A representative of the laboratory purchased the suit in a retail store without revealing his purpose in doing so. (The manufacturer met the actual charge for the commercial laboratory's work and the out-of-pocket cost of purchasing the suit for test.) Results of the test were submitted to CR directly by the laboratory. The rating is cr42.

A. Recommended

O.P.O., Lot No. 6M9701 (A. B. Joffe Co., 257 Fourth Ave., New York City; sold in O.P.O. Clothes stores located in, N.Y.C., Dallas, Los Angeles, San Francisco, Reading, Pa., and other cities in eastern, southern and western states) \$18.50. Fabric woven of very good quality worsted, two-ply warp and single-ply filling. Weight 14½ oz per running yd of 54-in. width. Breaking strength of suiting: warp 105 lb, filling 79 lb—very good. Breaking strength of lining material: warp 80 lb, filling 52 lb. Colorfastness to sunlight of dyes in suiting was found satisfactory. Fit in most respects was good, but after delivery, suit still required slight further alteration. Tailoring and general construction, judged good. 1

The Need for Vitamins

by L. STAMBOVSKY*

Widespread Deficiency and Deterioration of Public Health

According to the U. S. Public Health Service, 40 percent of the country's population suffer from inadequate nutrition. Quantitatively, most Americans get enough calories in the form of carbohydrates, which incidentally constitute 50 percent of our food intake. But refined sugar and starch, while they are energy sources, provide little or no accessory or vital food factors. Much more important than mere calories are the proteins, fats, vitamins and minerals. Since half of our food intake consists of white flour and sugar, it is clearly apparent that the most vital phase of nutrition, i.e., the proteins, fats, vitamins and minerals, has been in a great measure displaced by a non-vital dietary. . . .

Evidence of Widespread Deficiency

Specific or acute avitaminosis [a condition of ill-health due to a deficiency of vitamins in the food used or in the assimilation of vitamins] such as scurvy, beriberi, pellagra, rickets, osteomalacia, and tetany is comparatively rare. Illustrative of its infrequency is the report of the U. S. Census Bureau wherein it is stated that the total deaths in 1938 from these causes were but 3,637. If the general practitioner judges the prevalence of nutritional disease from these rare cases, then naturally he is of the opinion that all is well with our diet. But what of the millions of sub-clinical cases—persons who are not sufficiently ill to require medical aid, yet who are really not well? This condition is aptly termed "sub-optimum" health and does not fall within the range of the physician. The reason therefore is very human—why go to a doctor unless forced to? Why not wait until sub-clinical symptoms eventuate into real distress or incapacity and then visit Dr. Jones? Such is the reasoning of the average person. . . .

Combined or acute avitaminosis assists in the development of or results in the run-of-the-mill pathologies from alopecia to xer-

ophthalmia. Consumers' Research hereby gratefully acknowledges the courtesy of *The Drug and Cosmetic Industry* in granting permission to reproduce the accompanying excerpts from an article which appeared in its January 1942 issue. This article contains much material of fundamental importance on the relation between the food consumed and the health of the consumer that should be of distinct service in enlightening the general reader in a field which has been rendered more or less confused by the recent flood of detailed and often conflicting discussions of vitamins in popular journals. In this article, the basic questions have been put into their proper balance and relationship, and it is seen how widespread ill-health is among Americans and what has caused our diet to become gravely out of balance nutritionally. Especially interesting is Mr. Stambovsky's discussion of man's inheritance of carnivorous digestion and his stressing of the great harm that has been done to our diet by our unconscious but steadily increasing preferment of many of those very kinds of foods which contribute little besides energy—but do contribute greatly toward nation-wide nutritional deficiencies. Specifically, the author points out, the real culprit in our present-day faulty nutrition is excess of carbohydrates, coupled with shortages of certain other essential factors. We have the richest and most plentiful food supply on earth, yet we have, by various processes of abuse in manufacture, cookery, and storage, modified it in numerous strange ways so that relative to our possibilities we have evolved one of the most impoverished and unsatisfactory diets. The article includes just criticism of the slowness with which medical men have accepted evidence of the importance of dietary factors in determining or causing disease or general subnormality of health.

rophthalmia. As we have already outlined, because of the cyclonic speed with which the science of nutrition has grown, and because of the inherent but regrettable tendency on the part of medicine to resist new and simple facts that did not emanate from the American Medical Association, medicine as a whole

* Excerpts from the article which appeared in the January 1942 issue of *The Drug and Cosmetic Industry*. Reproduced by special permission of that journal and the author.

is not yet sufficiently schooled or even willing to concede the possibility of a nutritional ideology for much of the disease with which its efforts are concerned. . . .

Overwhelming evidence [of malnutrition] may be found in the existence of the gigantic proprietary drug business or the business of self-medication. Non-secret and well-known medicines such as cascara, brown mixture, baking soda, etc., should be included in this classification inasmuch as they are usually employed without the advice of a physician. America's total drug bill for 1929 (Cost of Medicine, Rorer and Fischelis), was \$715,000,000. Only 27 percent of this total was spent for physicians' prescriptions. The balance, or \$525,000,000, was obtained from customers who did not feel the necessity to seek medical aid. These persons, judging from the figures cited, must run into many millions. Consequently we have here a vast army of people who, while not acutely ill, are certainly not 100 percent well—people that the physician never contacts and of whom he is therefore in ignorance. Obviously, Medicine is not qualified to state in any degree the absence or prevalence of sub-optimum health. It would be interesting to break down the expenditures for different types of medication but unfortunately such figures were not available. But any drug clerk knows that millions were spent for analgesics in the treatment of countless headaches; many more millions are annually exchanged for laxatives and the treatment of not occasional but chronic constipation; still more millions were expended for cough mixtures, nasal preparations, throat lozenges and other products for the symptomatic relief of colds; tonics also get their share of America's income in an effort to get rid of that tired feeling; possibly the most important of all is the incalculable bill engendered by dental caries—which more and more is being viewed as of dietary origin, primarily carbohydrate excess; the gastrointestinal tract is instrumental in the conversion of further millions into antacids, digestants and other stomach correctives.

The foregoing is not a tirade against the drug business or retail pharmacy. The correction of those maladies for which these patent and home remedies were sold, constitutes a public service of no little magnitude and of which the industry might well be proud. But the essence of this exposition is

the question, "Why was it necessary for the American people to spend the unbelievable sum of \$525,000,000 for self-medication?" No one can say that the myriad daily headaches are normal or that man's sewage system was so imperfectly designed as to require constant outside assistance to function. Anemia with its telltale fatigue and pallor is certainly not a part of nature's design—nor are colds, coughs, coryza [head cold], impaired digestion, poor skin, nervousness, and other of the complex syndromes [group of symptoms forming a "disease-picture"], characteristic of health. It is admitted that the wear and tear of civilization with its perversions and distortions of natural laws is partly, but only in minor degree, accountable for some of our modern pathology. In the light of newer knowledge we now know that the real culprit is inadequate nutrition—more specifically excess of carbohydrates and insufficient [natural, unmanufactured] fats, proteins, vitamins and minerals.

Why Impoverished Food?

There is no longer the question of whether or not our dietary is comprehensive. We have briefly proven that it is not. To what factor or factors is our inadequate dietary attributable? Fundamentally, certain evolutionary changes are herein concerned. Man was born carnivorous. For those who are doubtful of this it is but necessary to point out that diabetes, an appreciably common disease, is merely the abuse and subsequent exhaustion of a comparatively limited property—the power to digest carbohydrates, which are the basis of all herbivorous foods. Man's ability to consume proteins and fats is within reasonable limits continuous throughout life. This seems to indicate a physiology that was constructed for the foods of carnivorous and not of herbivorous animals. However, as time went on the numbers of genus homo increased to such an extent that there were no longer enough animal foods to go around. With characteristic ingenuity, Man turned directly to the earth for food which was plentiful and easy to obtain. The birth of agriculture ensued—dating back about 7,000 years. But man's physiologic evolution has not kept up with this change in food habits. The herbivorous animals have large stomach capacity for the consumption of voluminous quantities of

grains, fruits and vegetables. The capacity of carnivorous animals, including man, was geared to the relatively concentrated fats and meats of animals. On the basis of equal volumes, unconcentrated nutriment of vegetable origin contains but half the energy value of animal fats, none of the structural value of animal proteins, and on the average but a fraction of the vitamin and mineral content of carnivorous foods in general. This changeover from carnivorous to omnivorous habits is a first step in the explanation of the modern paradox—malnutrition in an oasis of plenty.

Why and Where Does Qualitative Depletion Occur?

American foods are the richest and most plentiful on earth. The factors responsible for impoverishment are manifold and complex. We have already discussed the transition from carnivorous to omnivorous habits. It becomes even more relevant in view of the following: vegetables, fruits and grains are at best, as compared with foodstuffs of animal origin, an inferior source of minerals, vitamins, energy and repair substance. But vegetable foodstuffs under modern conditions are subject to still further depreciation. The time required for long-distance transportation necessitates the marketing of unripe fruit which, of course, does not possess the mineral and vitamin content of naturally matured fruit. Large-scale distribution forces the employment of cold storage permitting oxidation and time to wreak still further destruction. Exhausted soil, the matrix of fruits and vegetables, cannot do otherwise than yield low vitamin and mineral content. Sun-dried fruits, by virtue of heat, oxidation and actinic effects, undergo high vitamin losses. Animal foodstuffs withstand deleterious conditions much better and are not subject to as many as the above.

Canning, a necessary phase of modern living, is another source of vitamin deterioration. According to Drs. L. B. Pelta and M. M. Cantor, Department of Biochemistry, University of Alberta, Edmonton, the following losses occur:

Vitamin A	10-50 per cent.
Vitamin B ₁	Appreciably destroyed in all canning and cooking. Loss in acid media 5-15 percent; in alkaline media, up to 80 percent.

Vitamin C	Variable, stable in some foods, completely destroyed in others.
Vitamin D	Not important in canned foods.
Riboflavin	{ 5-15 per cent.
Nicotinic Acid	
Calcium	{ Precipitate during canning. Lost through adherence to metal or insolubility in gastro-intestinal tract.
Phosphorus	

These authors further state that increased destruction must occur inasmuch as the foods must be again heated before serving. . . .

In the more favored socio-economic strata, excess candy, pastry and other ultra-refined gastronomic temptations displace the more simple but fundamental foods. There is, further, supplanting of natural fats (such as butter, corn oil, and animal fats) by cheaper, synthetic, non-vitamin and non-assimilable fats. This is one of the main causes of fat starvation with resultant dermatological [pertaining to skin diseases] repercussions. Destructive culinary practices are guilty of extensive damage to what was originally good food. Heat and the presence of alkali inactivate vitamins C, B₁, and B₂. Fruits and vegetables cooked in water lose both through heat and solution in discarded cooking media. Frying and other heat treatments of meats reduce the B Complex content by about half. The multiple processes involved in producing dishes of ultimate visual appeal, and the creation of exotic concoctions divorced of any relationship to the original foodstuff, and in the constant striving for maximum taste stimulation, concertedly de-vitaminize and denature nutriment so treated. Modern milling practices and bleaching remove or destroy carotene, B complex and other vitamins and minerals contained in the cereals. There is excessive use of white flour and white sugar, which, as already stated, constitute 50 percent of America's calorific intake; these are totally devoid of any mineral or vitamin content. Still other factors involved in the production of nutritional disturbances are personal idiosyncrasies, faddist diets, weight reduction, psychotic aberration [psychotic: relating to a mental disorder], impaired digestion, and a number of other syndromes such as pregnancy, fever, glandular disfunction, toxemia, etc. Another but recently recognized source of depletion is the common mineral oil habit. Vitamins A and D are more freely soluble in this hydrocarbon than in the bowel content—resulting in a

transfer to the oil and subsequent loss. High carbohydrate intake sets up increased demands for B Complex for its metabolism [breaking down and assimilation of food by the body] which serves still further to deplete the body of this factor—which should have been, but was not, supplied simultaneously with the carbohydrate ingestion.

Elimination of Nutritional Diseases

We have briefly depicted the extent and cause of nutritional deficiencies and errors. There is no quick or easily feasible method for correcting this insidious detriment to national health. A thorough reform of those culinary practices accountable for destruction and removal of food accessories would eventually result in a substantial improvement. However, an appalling amount of

education and time will be necessary to achieve much success along this line. The increased consumption of animal products would be a distinct advance but unfortunately economic limitations prohibit more than a minor relief by this means. Any appreciable transition from other classes of foods to animal foods becomes doubly difficult when it is realized that per calorie the cereals cost one-half to two-thirds less than any other source of energy. Wider consumption of vitamin-bearing vegetables would unquestionably be of worthwhile benefit. Authorities claim that a good diet should contain at least 200 grams of vitamin-bearing vegetables. Unfortunately, amelioration of the diet in this way is impossible at present inasmuch as the existing supplies in the United States would permit the apportionment of only 70 grams per capita.

Tests of Automatic Washing Machines Postponed by Government's Restriction of Production

FREQUENT LETTERS from our subscribers indicate that many consumers do not realize that they are on the point of adapting themselves perforce to new and radically changed conditions as to things which they buy and use. Quite a number seem to feel that they can manage pretty much as in the past, with occasional exceptions, perhaps, as to such items as new cars, tires, and sugar. However, as we read the signs of the times, nothing like this can be assumed. Government officials have announced, through numerous media, often in those parts of the newspapers which the average man doesn't bother to read, their intentions to restrict or stop the production of many articles—so many, indeed, that there will be few in the general population whose habits of purchase and use will not be radically altered.

Automatic home washing machines are a

case in point. For some time we have been planning to carry out new tests, supplementing reports on the *Bendix* which appeared in our BULLETINS of February 1939 and January 1941. Now, however, not only are automatic washing machines to be taken out of production, but production of ordinary washing machines also will, it is announced, be entirely stopped, on April 15 by large manufacturers, and on May 15 by the smaller ones.

In view of this very unfavorable situation, we have decided to postpone the test of automatic washers promised in the 1941 ANNUAL CUMULATIVE BULLETIN. We shall, of course, return to the topic as soon as there is reasonable likelihood that the machines to be tested will actually be available to ultimate consumers in considerable numbers and for a reasonable period following the completion of the work on the test.

Corrections and Emendations to Consumers' Research Bulletin

Anthracite Coal
Stokers
November 1941
Page 9, Col. 2

Change rating of *Freed*, Models C-K, H, from B. Intermediate to C. Not Recommended. Unsatisfactory results reported with *Freed* stokers.

Anthracite Coal
Stokers
December 1941
Page 14, Col. 1

Change rating of *Freed*, Models C-K, H, under "Previously listed Anthracite Stokers," from B. Intermediate to C. Not Recommended. Unsatisfactory results reported with *Freed* stokers.

Storing A Storage Battery

FACED with the probability of shortages in most kinds of automobile accessories, many consumers are considering all the practicable ways for keeping the family car in operating condition as long as possible. Storage batteries are one of the important items which use scarce materials, and it therefore behooves car owners to give the best care possible to any spare or extra batteries they may have about.

Many perhaps do not realize that a battery, whether initially charged or not, cannot, unless given special care, be kept for any length of time without serious deterioration in storage or in a car that is not used or is used only infrequently. A battery, whether new or old, that is not kept charged will deteriorate seriously; in very cold weather, it may freeze up and be irretrievably injured.

The consumer should proceed as follows to prepare a battery for storage: Have the battery fully charged, taking care to bring all cells to full charge by an equalizing charge, if necessary.¹ Reduce the specific gravity of the electrolyte (as shown by the conventional battery-testing hydrometer) to 1.210, by the addition of distilled water.² This weakening of the electrolyte will aid in slowing up self-discharge while the battery is being stored. If the battery is in good condition, it may then be stored without further attention for a month or two. Periodic charges should be given when or before the gravity of the electrolyte has fallen to 1.170. As an alternative method, freshening charges an hour or two long may be given once each month, bringing the battery to full charge each time. Distilled water should be added as needed to maintain the level of the electrolyte. In winter, unless the battery is protected against freezing, distilled water should not be added except during or immediately after a charging period.

The life of batteries stored in the manner

¹ An equalizing charge is a continuation of charge at a moderate rate until there is no rise in electrolyte gravity of any cell when readings are taken at the end of three consecutive half-hour periods. The voltage of the fully charged individual cells should reach 2.4 to 2.7 volts while under charge (the exact voltage depends somewhat upon the battery's age and its temperature).

² For accuracy, the added water should be thoroughly mixed with the electrolyte already in the battery, before taking a hydrometer reading. To accomplish this, add the water while the battery is being charged and allow some little time to elapse before measuring the specific gravity.

described can be further extended if they are discharged and promptly recharged, at regular intervals. For the average 100-ampere-hour battery, the discharge may be at a 15-ampere rate for about six hours. Four or five 21 candle power automobile headlight bulbs may be connected in parallel to the battery to provide the needed current drain. This should lower the battery voltage, at the end of the period, to about 5.2 volts. The battery should then be immediately recharged and given an equalizing charge, as already described, before being put back in storage. For the average consumer it will probably be satisfactory to carry out such "cycling" (discharge followed by recharge) every three to six months.

It is impossible to give an accurate estimate of the life of a wet storage battery in storage, but if given proper care, and if in good condition when storage begins, it seems reasonable to expect a battery to remain in good condition for six or more years.

Any mechanically minded person planning to store a battery in the manner described would do well to purchase the equipment necessary for battery upkeep rather than to rely on having the work done at a battery service station. Owning your own equipment would do away with the inconvenience of taking a heavy, rather messy-to-handle battery to be recharged at regular intervals, and in the end, it should be more economical, unless a special fee for the job could be worked out with the serviceman.

The most expensive piece of equipment needed would be a battery charger. In some cities used ones may be available from secondhand radio dealers, of the kind left over from the battery-radio days. Both Sears-Roebuck and Montgomery Ward list in their mail-order catalogs auto battery chargers or "boosters" at about \$5, which should be satisfactory for the purpose. The cost of operation of such units for electric current will be small. Hydrometers for measuring the specific gravity of the electrolyte are available from auto specialty stores, the large mail-order houses, and the cut-rate

radio-supply houses at prices from 45c to \$1. The unit purchased should show actual specific gravity (as 1.100, 1.200, etc.), rather than be simply marked in zones indicating half-charge, full-charge, etc.

Ammeters for reading the rate of discharge or charge can be picked up for almost nothing from automobile junk yards, and should be satisfactory if care is taken in making the selection. Some of the older and more expensive cars were equipped with good battery-charge-discharge meters. A direct-cur-

rent voltmeter satisfactory to carry out the voltage measurements that are mentioned should be a fairly good one and thus would probably be expensive if purchased new. Used 0-15-volt d-c voltmeters of good make may sometimes be purchased from such a firm as Herbach and Rademan, Inc., 522 Market St., Philadelphia, for about \$3. Fortunately, a voltmeter is not an absolute necessity and for the few times it would be convenient to have, might perhaps be borrowed from an engineer or electrician or radio-expert friend.

A Portable Radio of Exceptional Usefulness

THE VALUE OF RADIO as a means of rapid communication by public authorities with the civilian population has been strongly brought out by recent world events, and many consumers have felt the need for some type of set which would give them reliable and certain service on news broadcasts and notices or warnings regarding raids or catastrophes. Air-raid wardens, first-aid station personnel, ambulance drivers, emergency squads, fire fighters, police, etc., would probably be especially interested in knowing of any receiver that would give more than ordinary assurance of keeping its users in touch at all times with radio broadcasts giving directions for emergency action or assigning them to special duties. Since many types of emergency may result in power-line failures or need for reception at a remote point where power connections are lacking, the use of some kind of battery-operated receiver would seem to be indicated, in spite of the fact that the cost of operation of these sets per hour of use will usually be high, compared with sets operated directly from the 110-volt a-c connections.

In the October 1941 BULLETIN, CR reported on a number of 1942 battery receivers, most of which are still available on the market. Among these was the *General Electric*, Model LB-530, which had several minor defects but which offered the very great advantage of operating from a small storage battery. This means of operation is intrinsically much more economical than operation from dry cell batteries and is highly reliable

since storage cells are inherently uniform and their life likely to be long. (There appears to be no immediate likelihood of a crucial shortage of storage batteries.)

With the thought in mind that this set would be well suited for use as an emergency receiver, CR recently examined a new sample. We now find that most of the defects of the receiver previously reported have been remedied. Subscribers interested in purchasing a portable receiver would do well to refer to the October 1941 BULLETIN for our general remarks on portable receivers, as well as for ratings of a number of other models. The following rating is cr42.

A. Recommended

General Electric, Model LB-530X (*General Electric Co.*, Bridgeport, Conn.) \$50. 5 tubes. Size of case, 12¼ x 13 x 5 in. Weight, 18¼ lb. Sensitivity excellent—very much improved over set previously tested, probably as good as any in the group reported in the earlier study. (This is likely due in the main to new and larger type of built-in antenna.) Selectivity satisfactory. Tone quality relatively good, as portable or battery receivers go. Hum and vibration previously found in this set have been largely eliminated by a change in mounting of the vibrator. Quality of parts average; dial somewhat flimsy. Workmanship in the main good, construction of case good. Considered moderately difficult to service. As previously mentioned, maker's claim that battery operation for 15 hours is possible before recharging, considered conservative. This receiver had small amount of electrical leakage current when it was operated from 110-volt a-c power lines but this leakage not considered sufficient to be especially hazardous. Probably due to shortage of materials, the present set is now equipped with "electro-dynamic" speaker (which is somewhat heavier) instead of permanent-magnet type as previously reported. 3

Day-to-Day Storage of Foods in the Home

IN WARTIME it is particularly important for the housewife to make sure she is storing foodstuffs in a way most likely to prevent spoilage. Poor storage wastes foods, causes losses of vitamin values, or lessens their nutritive value in other ways. Wrong ideas on how to store food are widely prevalent, not only among housewives but also among men who make a business of making and selling large quantities of food. Even a recent article in a magazine on hotel management contained a surprising proportion of badly conceived advice on how to store various common fruits, vegetables, flour, coffee, cereals, etc.

In order to furnish CR subscribers with correct instructions for preserving food, advice was sought from governmental experts. The directions which follow are mainly from sources in the U. S. Department of Agriculture.

During warm weather, most foodstuffs in the home are best stored in the refrigerator, yet some do not require refrigeration and can be stored elsewhere to save space in the refrigerator for more perishable foods.

In a different class are **bananas**, which, while they ripen quickly at warm temperatures, spoil easily at temperatures below 50°F and should not be placed in a refrigerator. Most foods which do not have natural thick protective coverings that retard evaporation of moisture should be kept in a covered pan or bowl in the refrigerator, to prevent drying out. Some foods must be covered for another reason—to prevent undesirable transference of a strong food flavor from one food to another.

While modern refrigerators are effective in retarding the spoiling of food, it is a good rule not to buy supplies too far ahead. It is better to buy foods that are fresh and to store them as short a time as possible, for even in refrigerator storage, foods lose some of their nutritive value.

For uncooked **meats**, reserve the coldest parts of the refrigerator (immediately below the cooling unit, or in the case of an ice refrigerator, immediately below the opening for the down-coming current of air from the ice compartment). Ground meat and diced meat spoil especially easily. **Liver** and other

organ meats are peculiarly subject to quick spoilage, and should be used the same day they are bought. Meat should be removed from the wrapping paper in which it was delivered and put on a plate with a piece of paraffined paper laid on top (to retard evaporation of juices) but not wrapped around it. **Cooked meat** should be covered to prevent drying out.

Milk and **cream** also require a cold place, preferably below 45°F, which in the electric refrigerator is usually provided beside the cooling unit. Milk and cream should be kept covered.

Butter in the refrigerator should be tightly covered to hinder absorption of flavors from other foods.

Cheese should be kept covered; **hard cheese** may be wrapped in paraffined paper.

Most vegetables require low temperature and high humidity for good keeping; hence in the electric refrigerator place the following vegetables in covered glass or enamelware trays or dishes: **artichokes, asparagus, green and waxed beans, cabbage, carrots, cauliflower, celery, corn, cucumber, peas, spinach.** **Parsley** should be in a covered dish by itself, and **peppers** may be placed either on the ice-box shelf or in the hydrator. **Tomatoes** can be left either covered or uncovered. **Cauliflower** is best stored tightly covered to prevent transference of its flavor to other foods. **Cabbage** is best stored covered with some of the outer leaves left on to cut down evaporation. (If space in the refrigerator is at a premium, cabbage and cauliflower will keep fairly well outside of the refrigerator providing the outer leaves are left on.) **Peas** should be left in their pods; if they have been shelled for convenience, it is said that it is best to bring them just to a boil and then, after allowing them to cool, to place them in the refrigerator in a covered dish. When vegetables such as **celery** or **spinach** are received in a wilted condition, they should be revived by letting them stand in cold water before they are placed in the refrigerator. Both should be kept in covered containers.

Fruits that are not yet fully ripened need not be stored in the refrigerator, but when ripe (except **bananas**) should be kept in the

refrigerator to delay spoiling. Fruits with thick skins that retard evaporation generally do not require covering. **Muskmelons**, however, when placed in a refrigerator should be wrapped tightly in paraffined paper to prevent contaminating other foods with their odor.

Eggs, of course, should be stored in the refrigerator. Cooked egg dishes such as **deviled eggs**, **custard**, **cream puffs**, spoil very easily and should be kept in the refrigerator, in its coldest part, up to the time they are eaten.

Bread should be kept in a tin box which is not shut tightly, or which has holes for ventilation. The box should be scalded and

aired at least once a week. Bread which does not keep satisfactorily this way may be stored (wrapped to retard evaporation of moisture) in a refrigerator.

For the housewife who wishes additional information, the following bulletins on storage of foods are recommended:

► The Market Basket, Aug. 6, 1941. Free from Bureau of Home Economics, U. S. Department of Agriculture, Washington, D. C.

► Care of Food in the Home—Farmers' Bulletin No. 1374. 5c from Superintendent of Documents, Washington, D. C.

► The Commercial Storage of Fruits, Vegetables, and Florists' Stocks—Circular No. 278. Bureau of Plant Industry, U. S. Department of Agriculture. 10c from Superintendent of Documents, Washington, D. C.

CONSUMERS IN WARTIME

[Continued from page 2]

notorious results in some communities, created such an impression that there are consumers today who do not believe the rubber shortage is a real one, or who think that if governmental officials were interested in supplying goods rather than a scare-tempo for their news stories, we could have synthetic rubber or rubber from some source.

It is not to be wondered at, therefore, that the housewife with large family responsibilities has been inclined to stock up on sugar, piece goods, toilet paper, sheets, and pillowcases. Quite possibly she does not have confidence in the promises of the head of some alphabet agency that her needs will be taken care of, especially when very often the alphabetic top-men contradict each other and with surprising suddenness reverse their own presumably well-considered decisions and policies.

The wholesale stopping of consumer industries in many cases at the widely publicized demand of left-wing labor unions for the supposed purpose of retooling them for making munitions or war materials does not sit well with the average consumer who remembers that a few short months ago many of the same left-wing union leaders were calling it another war for conquest, designed to break the unions and wreck Labor's social gains of the years just preceding. Many consumers will even ask themselves whether they are getting what they paid for in the sacrifice of many of the consumers' goods which have been hitherto available.

Consumers have no channel for expressing themselves politically, nor are they minded to join up with labor and left-wing or other pressure groups to ask a share in the financial or technical management of the war. They do ask a fair deal from the economy and from every one of those million and a half men and women who as their **paid public servants** are managing it. Especially, consumers ask that their lack of channels of action and expression and their unwillingness to be dragooned into pressure and picketing groups, shall not be taken by

those in authority as a license to act as if everyone **but** consumers shall have the right to receive fair and considerate treatment at the hands of government.

Our public servants must come to know that in the long run what determines whether a government goes down in history as a failure or a success is the way it performs in battle with an adequate number of ships and planes, and the way in which it adjusts the war economy to provide for the actual and reasonable needs of consumers.

No patriotic American will for a moment put his comfort or his minor needs before his Nation in war or any other emergency, but the average consumer, when he begins to understand how extensive is the current mismanagement and waste in production affairs, will be heard from in one way or another every time he is asked to sacrifice some essential article or service to the inefficiency, bungling, or lack of common American horse sense of a tax-supported bureaucrat filled with an overweening sense of his new-found power to push people around.

Some consumers with only moderately long memories can recall when governmental officials were going about the country preaching the doctrine that our economy had been ruined by *overproduction* and *excessive* plant capacity, evils which were to be corrected only by reconstitution and replanning of our whole productive system. Indeed, the impression was given that the excess American plant capacity and the wastes in its management were such that a war production economy would just about load things up to an efficient, comfortably operating level. American economists and consumers are not yet prepared for the imposition of any restrictions on production which go so far that they imply, necessarily, that all of these governmentally publicized implications of excess production capacity were false, misleading, and demagogic utterances.

F.J.S.

Protection for Valuables

NEARLY EVERYONE is concerned at some time with the problem of safe-keeping of documents and other valuables. It is a problem which becomes more serious in war-time and which many, especially persons living in metropolitan or munitions manufacturing areas, will want to consider anew in the light of possible air raids with explosive and incendiary bombs.

Neither CR nor anyone else can definitely say whether or not any particular place or region is likely to be subjected to bombing attacks. In any event, the question is one very far outside CR's field of expertness; yet many subscribers would perhaps wish to have some estimate of how great the practical hazard of bombings is for the average householder. The consensus of opinion of competent judges as reflected in our files suggests that the individual home-owner need have very little concern, for his risk will be small. There is some probability of bombing raids, but all that we are likely to experience, at least for the near future, is something in the nature of token raids by relatively small numbers of planes. Presumably there will be attacks from the air upon arsenals, shipyards, airplane and tank factories, and plants producing every sort of essential military supplies. Homes in the vicinity of such military objectives are, of course, exposed to some risk of bombing, and homes anywhere within some miles might be subject to a chance hit; yet it is felt that the mathematical probability of such damage to the individual home, except in certain limited areas, is very small, at least so far as can be judged from present circumstances. The greatest danger is probably from fires started by incendiary bombs, or in the debris produced by explosive bombs. In an air raid, a large number of simultaneous fires may make it impossible for the fire department to handle individual fires promptly, and fire may spread from building to building.

The safest and most practical place for the average consumer to keep his valuable papers and jewelry is in a safe-deposit vault in a bank. This furnishes good (but not perfect) protection against even a direct hit of an explosive bomb; such protection cannot be secured through any other method available to

most householders. The small safes commonly sold for home use and now being widely offered by department stores and office-supply dealers are not to be considered as fully reliable for protection against either fire or burglary. They have value for protection in a small fire, one perhaps that burns only the draperies and furnishings, but afford very little protection to valuables in a severe fire.

If valuables are to be stored at home and at the same time protected against fire, probably the best method is to place them in hermetically sealed, airtight containers, such as ordinary mason jars with good rubber rings, and bury them under a foot or two of earth in the cellar floor. Heat, even from a very hot fire, penetrates very slowly downward through earth. (The hermetically sealed jars will also retard deterioration from moisture, and this is particularly important if the valuables include records or documents of any kind.) The protection thus afforded against fire will be far more certain than afforded by any safe likely to be at the consumer's disposal.

For increased protection, a reinforced concrete box buried in the ground could be made to hold the jars. If the location of the box is well concealed and kept secret, it is also pretty good protection against theft. Such a box offers good protection against explosive bombs, except in the very remote possibility of a direct hit immediately above it.

When a so-called fireproof safe is to be used for storage, reliance should be placed only on one which has a fire protection rating, as shown by the label of the Underwriters' Laboratories, that is adequate for the location in which it is used. Safes are commercially available having ratings of one, two, and four hours (in reference to a standard time-temperature curve reflecting the heat conditions in a severe fire). The higher the rating, the better the protection. The protection afforded by any safe depends, however, upon the type of building in which it is used and upon the quantity of combustible contents in the building. It is wise probably not to place reliance for use in the average home on any safe unless it has at least a two-hour fire test rating. Such safes are expensive.

Safes with only a one-hour rating, such as most costing under a hundred dollars, are likely to give one an entirely false sense of security. In a survey of many fires, one-hour safes were found effective in saving contents only two-thirds of the time.

Too many consumers will assume that because the contents of a certain safe came through a fire in reasonably good condition,

other safes of similar construction can be depended upon to give adequate protection. This is not at all true, and the actual fate of documents in filing cabinets and safes in any given fire depends upon a myriad of factors, including the amount of combustible material in the room, conditions of combustibility above and below the room, direction of the wind, etc.

The Problem of Goods Suddenly "Off the Market"

With a Note on the Typewriter Situation

IN THESE DAYS of uncertainty and governmental rulings promulgated on an overnight basis, often with effects decidedly jolting to the public, consumers can no longer expect to be able to go to the stores and purchase goods according to their needs and desires, in a free market, as in years past. And, by the same token, reports with brand listings which CR may be preparing for its subscribers may, for the moment at least, be rendered as dead as the proverbial doornail, by one of these sudden announcements. In several cases, an article has no sooner been purchased for test, investigated in the laboratory, and written up in manuscript form for the BULLETIN than it has become unavailable temporarily, in some cases, perhaps, for the duration.

In the February 1942 BULLETIN, for example, it was explained why the article "Used Cars" was at short notice substituted for the detailed report on Automobiles of 1942, which had been carefully compiled and checked and was on its way to the printer when the Supply Priorities and Allocations Board announced definitely and positively that the sale of new cars would be banned until further notice. As readers now know, new cars will be sold, but on an extremely limited, rationing basis, and it is quite likely that the use of all cars will soon be sharply restricted by the limitations on the sale and use of tires and of retreading and recapping services, and by the expected rationing of gasoline.

The unstable state of the consumers' goods market is well exemplified in the announcement in the morning papers of March 6 to the effect that "effective at midnight" [meaning midnight March 5], all typewriters, regu-

lar and portable, both new and used, would be "frozen" until the OPA could complete regulations for a rationing system on which it was then still at work. As a result of this sudden order, a study of portable typewriters, based on a close study given various machines by a graduate engineer familiar with typewriter construction and design, which was scheduled for inclusion in the April BULLETIN, had to be withdrawn, though it had already been set up in proof form. If the rationing regulations, when issued by the government, are such that an article on portable typewriters will seem to be of practical value and usefulness to a sizable proportion of our subscribers, the report will be issued in a later BULLETIN. Otherwise it will be prepared and issued in such form as will make it best serve the needs of that limited proportion of the public who may be able to take advantage of the rationing system.

* * *

Subscribers, we believe, need not take these rapidly announced shortages as representing the end of the world, or of the market for goods. While it is to be expected that conditions will become more difficult, as increasing numbers of plants and skilled workmen are diverted perforce to the production of war materials, our readers need not expect to find the situation impossibly difficult. It is believed that for most of the problems presented, practicable (and in some cases entirely satisfactory and economical) solutions can be found. Subscribers may rest assured that CR will continue, as in the past, to offer them the constructive help and advice with their purchases which they require. Moreover, that advice will at all times be

adapted as rapidly and precisely as possible to the more important needs and more difficult problems of the hour. In some cases the rapid changes in the market will require that listings of brand names under A, B, and C classifications shall be given less emphasis, and that greater stress be placed rather upon "specification points" and criteria of judgment that must be looked for by the consumer when choosing from among the kinds and brands of goods that will remain available to him.

That consumers' choices will be restricted more and more in the immediate future is not to be debated, but the ultimate consumer still has the problems of buying and using goods, and he still has the means with which to solve them. He must still ask himself: How can I get the best for my money? What

secondhand articles can I use to take the place of goods which I can no longer buy? What commonly available items can be substituted effectively for others without serious loss of efficiency, safety, or convenience? How can I get the best service and the longest period of usefulness with the goods that are still available to me?

On all of these questions, CR's BULLETINS will provide useful, concrete, and effective answers. As the consumer finds himself increasingly hedged about with purchasing problems arising from rationing regulations, shortages of goods, and falling off of their grade or quality, so will he find CR's BULLETINS of increasing usefulness in providing reliable answers, based upon sound technical knowledge, to these vexing problems.

Should You Buy A Gas Mask?

MANY CITY DWELLERS, greatly perturbed by accounts in the newspapers that a considerable time would elapse before the civilian population could be supplied with official gas masks, have no doubt either purchased or planned to purchase masks for their own families' use. Some of these persons may be air-raid wardens who, in reading the handbook provided them by the Office of Civilian Defense, have noted that their equipment should include a gas mask, when available.

Large quantities of gas masks have been available to civilians and appear to have been sold in large numbers, but unfortunately they are not satisfactory against the types of gas that must be dealt with. The only masks that have proved effective for all types of war gases now in military use or likely to be used against civilian populations are those manufactured according to the

Chemical Warfare Service Specifications—specifications established after years of research on the subject. Do not purchase any commercially offered gas mask. Dealers in these are more likely under present conditions to be operating a racket than providing a service to the public.

The War Production Board, to halt the sale of unauthorized, unapproved, and unstandardized masks, and at the same time conserve the scarce and valuable materials used for their production (activated charcoal, rubber and synthetic rubber, etc.), has issued orders banning both the manufacture and sale of unofficial, commercial masks to the public.

If you already have a gas mask, it will perhaps be better than no mask at all, but it should be replaced by an approved type when the latter is available.

Are You Planning to Sell Your Car?

IF YOU HAVE DECIDED that your car is of little value to you, now that the possibility of obtaining tires for it is remote, and if you think you might as well sell it while the tires still have some usable rubber left and before the government proceeds to commandeer tires, you may live to find your decision was an unwise one. (There has been some intimation that such commandeering of tires might be resorted to.) When the war is over

and industries go back into production of consumer goods, new tires will be had much more easily than a new car. It has been estimated that something like eighteen months will be needed to retool an automobile plant for production; whereas tires can be produced in quantity very shortly after sufficient supplies of crude or synthetic rubber become available.



CONSUMERS' DIGEST

In the Groove

With Ratings of Phonograph Records

By

WALTER F. GRUENINGER



Recently I sat in on a session during which Victor recorded Gladys Swarthout, mezzo-soprano, accompanied by 40 members of the Metropolitan Opera Orchestra under Pelletier in a room of New York City's Lotus Club, chosen for its acoustics.

The orchestra in V-shaped rows sat before the conductor, who was flanked by two microphones. Strings were on his right, winds, brass, and percussion on his left. Miss Swarthout with a microphone of her own and music on the stand before her, stood ten feet to the left of the conductor.

The recording of two American songs took nearly two hours, due principally to errors in the orchestral manuscript discovered during rehearsal. Once the music was corrected, four performances were recorded before Victor, Pelletier, and Miss Swarthout were satisfied. The first recording was made in order to achieve balance of instruments and voice and to give the performers a chance to observe and strengthen the weak points heard during the playback, which took place immediately after the performance.

The engineers in an adjoining room operated two recording machines simultaneously, recording on wax, cutting up to 8500 cycles then tapering off with higher frequencies. In the engineers' room, too, before a loud-speaker sat the Victor representatives who carefully checked every note of the performance against the music spread out on the table before them. Present, also, was a monitor, who reduced the volume of loud passages to prevent overcutting. The husband of Miss Swarthout acted as his wife's adviser and critic.

The operatic arias were recorded in approximately a half hour each for the reason that the music needed no correcting and the or-

chestra of the Metropolitan Opera House needed little rehearsal. The second recording of the *Flower Song* from *Faust* satisfied the Victor representatives and Mr. Pelletier, but Miss Swarthout asserted, "I can do better!" Since Victor requires the artist's approval, Pelletier cheered and suggested another performance at once. The third performance was one of the most expressive I have ever heard.

Connais-tu le Pays from *Mignon* had been rehearsed at four minutes. Since this approaches the maximum of a twelve-inch disc, the engineers were instructed to cut 110 grooves to the inch instead of the previous 100, thus allowing more playing time on the disc, and in so doing, reducing the volume of recording in playback, for a larger number of grooves per inch do not permit such loud volume, on account of risk of overcutting. A slightly faster performance was ordered, too, on the theory that an aria may be dragged when the audience *sees* the artist but when the audience only *hears* the artist, a faster tempo holds the attention more readily.

After four hours of this I left with the impression that the Victor Company, Mr. Pelletier, and Miss Swarthout, had done all within their power to give the record buyer full value for his money. Whether or not the records you buy sound as true to fidelity as the playback I heard from the wax master after each performance will depend on the manufacturing processes and materials, and above all, on the tonal fidelity of your own phonograph.

Ratings of Phonograph Records

Key: AA—highly recommended; A—recommended; B—intermediate; C—not recommended.

	Quality of Music	Inve- re- lation	Fidelity of Recording
ORCHESTRA			
Berlioz: <i>Roman Carnival Overture</i> .	A	A	A
Phil. Symph. Orch. of N.Y. under			

- Barbirolli. 2 sides, Columbia 11670. \$1.05.
- Brahms: Tragic Overture** (3 sides) & *Minuet from Serenade No. 1* (1 side). Chicago Symph. Orch. under Stock. Columbia X214. \$2.63. Brahms' dramatic overture gets an understanding performance and excellent recording. Over-all performance nearly matches Toscanini's Victor 15386/7 (\$2.).
- Dukas: Sorcerer's Apprentice** (3 sides) & **Rimsky-Korsakov: Cog d'Or—Bridal Procession** (1 side). Minneapolis Symph. Orch. under Mitropoulos. \$2.63. Columbia X212. Dukas' witty, popular scherzo, in which Mickey Mouse appears in Fantasia, suffers from a dry performance and recording. Stokowski on Victor M717 is preferable though not ideal.
- Foster: Oh Susannah! & Traditional: Sally in Our Alley.** 2 sides, Victor 4569. 75c. Boston Pops Orch. under Fiedler.
- Grieg: Two Elegiac Melodies.** Minneapolis Symph. Orch. under Mitropoulos. 2 sides, Columbia 11698. \$1.05. My copy was incorrectly labeled. *Last Spring* begins $3\frac{1}{2}$ " from center on side with *Heart Wounds*, and takes up all of other side.
- Hindemith: Mathis der Maier.** Phila. Orch. under Ormandy. 6 sides, Victor M854. \$3.50. This 8-year-old work, generally regarded as one of the richest scores of our times, probably will not appeal to those who dislike "modern music."
- CONCERTOS
- Rachmaninoff: Concerto No. 1.** Rachmaninoff (piano). 6 sides, Victor M865. \$3.50. Victor announces this as "a notable addition to recorded concerto literature." I find the music uninspired.
- Walton: Concerto.** Heifetz (violin). 6 sides, Victor M868. \$3.50. A spirited addition to the violin repertoire, though I would purchase the concertos of Beethoven, Brahms, Mendelssohn first.
- VOCAL
- Beethoven: Adelaide.** Bjoerling (tenor). 2 sides, Victor 2195. 75c.
- Halevy: La Juive—Passover Scene.** Peerce (tenor). 2 sides, Victor 18401. \$1.
- Offenbach: Tales of Hoffman—Dapertutto's Aria & Gounod: Faust—Avant de quitter ces lieux.** Warren (baritone). 2 sides, Victor 18420. \$1.
- Puccini: Madame Butterfly—Un Bel Di, Vedremo & La Boheme—Mi Chiamano Mimi.** Sayao (soprano). 2 sides, Columbia 71320. \$1.05.
- Schumann: Dichterliebe.** Lehmann (soprano) 8 sides, Columbia M486. \$4.20. Lehmann's singing of this masterpiece falls short of her "flawless best" and Bruno Walter's accompaniments tinkle away far in the background. Over-all, inferior to Victor M386.
- Verdi: Attila—Dagli immortali ver-**
- tici & Goldmark: Queen of Sheba—Lift Thine Eyes.** Gorin (baritone). 2 sides, Victor 18402. \$1.
- Wolf: In dem Schatten Meiner Locken & Mausfallen Sprüchlein & Schumann: Widmung.** Stevens (mezzo-soprano). 2 sides, Columbia 17297. 79c.
- Coloratura Arias.** Korjus (soprano). 6 sides, Victor M871. \$3.50. Carnival of Venice, Bird of the Forest, Lucia Mad Scene, etc. Competent performances of vocal gymnastics.
- Richard Crooks in Song.** Crooks (tenor). 10 sides, Victor M846. \$4.25. Schubert's *Serenade*, Grieg's *Dream*, Handel's *Alma Mia*, Purcell's *Passing By*, and 8 other favorites admirers of Mr. Crooks are likely to enjoy.
- Pons-Kostelanetz Concert.** Pons (soprano), Kostelanetz & his Orch. 8 sides, Columbia M484. \$4.73. Miss Pons, not at her "glorious best," does well with *Russian Nightingale & Dancing Doll* on separate discs. Sure fire hits are the orchestral arrangements of Rachmaninoff's *Prelude in C Sharp Minor* and Liszt's *Liebestraum* coupled on C71304.
- Voices of the Golden Age of Opera.** 10 sides, Victor M816, \$5.50. Battistini, Calve, Farrar, Gadski, Melba, etc., in arias recorded just after the turn of the century. Primarily for the collector.
- LIGHT, FOLK & MISCELLANEOUS
- Shakespeare: Macbeth.** Evans & Anderson (actors). 9 sides, Victor M878. \$5.25. Victor's new Recordrama series auspiciously begins with 9 sides of the play and incidental music, written dialogue for each record, 5 pages of illustrations and continuity. A magnificent job even more thrilling on records than in the theatre. A must for schools and all lovers of the drama. Album of the month.
- Cole Porter: Victor Mixed Chorus.** 8 sides, Victor P107. \$2.50. *Begin the Beguine, What Is This Thing Called Love, Night and Day, Rosalie*, etc.
- Fernandez: Cielito Lindo & Ponce: La Estrellita.** Durbin (soprano). 2 sides, Decca 18216. 50c.
- Kern: Ol' Man River & Spiritual: City Called Heaven.** Weede (baritone). 2 sides, Columbia 17293. 79c.
- Waldteufel: Skater's Waltz & Poldini: Dancing Doll.** 2 sides, Willson & His Orch. 2 sides, Decca 18217. 50c. Jazz versions.
- Longways.** American Square Dance Group. 6 sides, Decca Album 275. \$2. Square dances with calls, suggested for dancing only.
- Catholic Novena Hymns.** Paulist Choristers under Slattery. 8 sides, Victor P106. \$2.50. Reverent singing.
- Chauncey Olcott Songs.** Regan (tenor). 8 sides, Decca Album 292. \$1.90. *Olcott's Lullaby, Irish Serenade, Last Love Song, I Love the Name of Mary*, etc., with organ accompaniment.

Ratings of Motion Pictures



This department of CONSUMERS' DIGEST endeavors to supply the critical consumer with a digest of opinion from a number of reviews, ranging from the motion picture trade press to Parents' Magazine which rates motion pictures not only on their quality as entertainment, but on their suitability in various aspects for children.

It should be emphasized that the motion picture ratings which follow do not represent the judgment of a single person but are based on an analysis of the reviews appearing in some 21 different periodicals. (For example, "Ball of Fire" was recommended by 1 reviewer, rated intermediate by 18, and not recommended by 1.) The sources of the reviews are:

America, Baltimore Sun, Box Office, The Christian Century, The Exhibitor, Harrison's Reports, Liberty, Mademoiselle, Motion Picture Herald, Motion Picture Reviews (The Women's University Club of Los Angeles), National Legion of Decency List, Newsweek, New York Herald Tribune, New York Sun, New York Times, New York World-Telegram, Parents' Magazine, Releases of the D.A.R. Preview Committee, Successful Farming, Time, and Variety (daily).

Periodicals will be added to this list from time to time as future exploration of the subject brings to light other journals offering critical appraisals of motion pictures which appear to be deserving of the intelligent reader's consideration.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure	mel—melodrama
biog—biography	mus—musical
car—cartoon	mys—mystery
com—comedy	nov—dramatization of a novel
cri—crime and capture of criminals	rom—romance
doc—documentary	soc—social-problem drama
dr—drama	trav—travelogue
fan—fantasy	war—dealing with the lives of people in wartime
hist—founded on historical incident	wes—western

A	B	C	
2	12	2	All Through the Night.....war-mel A
—	5	8	Among the Living.....mys A
1	11	6	Appointment for Love.....com A
—	6	—	Arizona Terrors.....wes AYC
2	13	3	Babes on Broadway.....mus-com AYC
—	3	13	Bahama Passage.....dr A
1	18	1	Ball of Fire.....com A
—	6	4	Bedtime Story.....com A
—	1	2	Below the Border.....wes AYC

A	B	C	
1	18	—	Birth of the Blues.....mus-com AY
—	—	3	Blonde Comet, The.....mel AYC
—	4	1	Blondie Goes to College.....com AYC
—	9	2	Blue, White, and Perfect.....mys A
—	7	9	Blues in the Night.....mus-dr A
—	5	5	Body Disappears, The.....com A
—	9	3	Bombay Clipper.....war-mel AYC
—	6	4	Born to Sing.....mus-com AYC
—	5	1	Borrowed Hero.....cri AYC
—	5	—	Broadway Big Shot.....com AYC
—	3	1	Brooklyn Orchid.....com A
—	12	—	Bugle Sounds, The.....war-mel AY
—	4	—	Bullets for Bandits.....mus-wes AYC
—	10	4	Buy Me That Town.....com A
—	5	3	Cadet Girl.....mus A
—	3	2	Cadets on Parade.....mel AYC
—	4	6	Call Out the Marines.....war-mus-com A
3	8	2	Captains of the Clouds.....war-dr A
—	2	4	Castles in the Desert.....mys AYC
—	12	4	Chocolate Soldier, The.....mus-com AY
—	2	1	Close Call for Ellery Queen, A.....mys AY
—	2	1	Code of the Outlaw.....wes AYC
—	3	2	Come On, Danger.....mus-wes AY
—	6	5	Confessions of Boston Blackie.....mys A
—	10	5	Confirm or Deny.....war-mel A
—	17	3	Corsican Brothers, The.....nov AY
1	4	—	Courtship of Andy Hardy, The.....com-dr AYC
—	4	1	Cowboy Serenade.....mus-wes AYC
—	8	—	Dangerously They Live.....war-mel AYC
—	6	3	Date with the Falcon, A.....mys AY
1	10	4	Design for Scandal.....com A
—	5	1	Devil Pays Off, The.....war-mel A
—	2	5	Don't Get Personal.....com AYC
—	3	1	Double Trouble.....com AY
—	8	6	Dr. Kildare's Victory.....dr A
—	—	3	Duke of the Navy.....com AYC
9	11	—	Dumbo.....car AYC
—	—	3	Escort Girl.....mel A
—	3	—	Eternal Gift, The.....doc AYC
—	10	9	Feminine Touch, The.....com A
—	3	2	Fiesta.....mus-com AY
—	3	—	Fighting Bill Fargo.....mus-wes AYC
—	6	1	Fleet's In, The.....mus-com A
—	4	4	Fly by Night.....war-mel A
—	3	1	Forbidden Trails.....wes AYC
—	5	4	Four Jacks and a Jill.....mus-com AY
—	3	1	'Frisco Lil.....dr AYC
—	8	1	Gay Falcon, The.....cri A
—	11	1	Gentleman at Heart, A.....cri-com A
—	12	—	Glamour Boy.....mus-com AY
—	5	4	Go West, Young Lady.....mus-wes AY
3	15	3	H. M. Pulham, Esq.....nov AY
—	3	3	Harvard, Here I Come.....com A
—	5	2	Hay Foot.....mus-war-com AYC
—	12	2	Hellzapoppin.....mus-com A
—	3	2	Honolulu Lu.....mus-mel A
11	8	1	How Green Was My Valley.....nov A
1	6	—	I Killed That Man.....mys-mel AY
2	15	2	I Wake Up Screaming.....mys-mel A
—	9	8	International Squadron.....war-mel AY
—	4	—	Invaders, The.....war-dr AYC
—	6	3	Jail House Blues.....mus-com A
—	13	2	Joan of Paris.....war-mel A
1	12	—	Joe Smith, American.....war-dr AY
—	10	6	Johnny Eager.....cri-dr A

A	B	C		
—	2	1	Kansas Cyclone.....	wes AYC
1	10	5	Kathleen.....	rom AYC
—	9	6	Keep 'em Flying.....	war-com AY
1	9	5	Kings Row.....	dr A
—	7	2	Laburnum Grove.....	dr AY
—	7	4	Lady for a Night.....	mus-dr A
—	6	2	Lady Has Plans, The.....	war-com A
—	3	3	Lady in Distress.....	mel A
1	4	3	Lady Is Willing, The.....	com A
—	1	2	Law of the Timber.....	mel AY
—	2	2	Lone Rider Fights Back.....	mus-wes AYC
—	4	1	Long Star Vigilantes, The.....	mus-wes AY
1	8	3	Look Who's Laughing.....	com AYC
2	11	3	Louisiana Purchase.....	mus-com A
—	2	7	Mad Doctor of Market Street, The.....	mel AY
7	9	—	Maltese Falcon.....	mys A
—	5	1	Man from Cheyenne.....	mus-wes AY
—	2	5	Man from Headquarters.....	cri-dr AYC
3	16	2	Man Who Came to Dinner, The.....	com A
—	3	3	Man Who Returned to Life, The.....	cri A
1	9	2	Married Bachelor.....	com A
—	3	4	Marry the Boss's Daughter.....	rom AY
—	2	2	Masked Rider, The.....	wes AY
—	5	2	Melody Lane.....	mus-com AYC
—	8	8	Men in Her Life, The.....	dr A
—	2	4	Mercy Island.....	mel A
—	2	4	Mexican Spitfire at Sea.....	com A
—	3	6	Mexican Spitfire's Baby.....	com A
—	4	1	Midnight Angel.....	war-mel AYC
—	1	2	Miracle Kid, The.....	mel A
—	5	2	Miss Polly.....	com AY
—	2	1	Missouri Outlaw, A.....	wes AY
1	8	—	Mister V.....	war-mel AYC
—	1	6	Mob Town.....	cri AY
—	8	3	Moon Over Her Shoulder.....	com A
—	6	4	Moonlight in Hawaii.....	mus-com AY
—	10	5	Mr. and Mrs. North.....	mys-com AY
—	10	4	Mr. Bug Goes to Town.....	car AYC
—	6	—	Mr. Celebrity.....	com AY
—	2	6	Mr. District Attorney in the Carter Case.....	mel A
—	4	—	Mr. Wise Guy.....	mel AY
—	5	8	Never Give a Sucker an Even Break.....	com AYC
3	4	6	New Wine.....	biog-rom AYC
—	5	2	Niagara Falls.....	com A
—	4	2	Night Before the Divorce, The.....	dr A
—	10	2	Night of January 16, The.....	mys A
—	5	3	Nine Bachelors.....	com A
—	7	2	No Hands on the Clock.....	mys-nov A
—	7	—	North to the Klondike.....	mel AYC
—	7	3	Obliging Young Lady.....	com AY
—	6	—	On the Sunny Side.....	war-com AYC
12	7	—	One Foot in Heaven.....	dr AYC
—	2	1	Outlaws of Cherokee Trail.....	wes AYC
—	4	2	Outlaws of the Desert.....	wes AY
—	3	3	Pacific Blackout.....	mel AY
—	3	4	Parachute Battalion.....	war-mel AYC
—	3	2	Pardon My Stripes.....	com A
—	9	7	Paris Calling.....	war-mel A
—	4	4	Perfect Snob, The.....	com AY
—	10	3	Playmates.....	mus-com AYC
1	5	7	Prime Minister, The.....	hist-dr AY
—	2	4	Public Enemies.....	cri A
—	9	3	Quiet Wedding.....	com AY
—	6	—	Red River Valley.....	mus-wes AYC
1	5	—	Remarkable Andrew, The.....	fan-com AYC
5	10	1	Remember the Day.....	rom AY

A	B	C			
—	8	3	Ride 'em Cowboy.....	mus-com	AYC
—	6	—	Riders of the Badlands.....	wes	AY
—	5	1	Riders of the Timberline.....	wes	AY
—	6	—	Riding the Wind.....	wes	AY
—	6	4	Right to the Heart.....	com	AYC
—	2	4	Riot Squad.....	mel	A
—	12	3	Rise and Shine.....	mus-com	A
—	5	3	Road Agent.....	mus-wes	AYC
—	8	—	Road to Happiness.....	mus-dr	A
—	9	7	Roxie Hart.....	com	A
—	4	—	Royal Mounted Patrol, The.....	dr	AY
—	5	1	Salute to Courage.....	war-mel	A
—	5	2	Sealed Lips.....	mel	A
—	3	3	Secrets of the Lone Wolf.....	cri	AY
1	11	4	Shadow of the Thin Man.....	mys	A
—	2	11	Shanghai Gesture, The.....	dr	A
—	1	4	Shut My Big Mouth.....	com	A
—	3	4	Sing for Your Supper.....	com	AYC
—	3	5	Sing Your Worries Away.....	mus-com	AY
2	10	5	Skylark.....	com	AY
—	7	1	Small Town Deb.....	mel	AYC
—	4	2	Snuffy Smith, Yard Bird.....	com	AYC
—	13	4	Son of Fury.....	nov-mel	A
—	3	2	Song of the Islands.....	mus-com	AYC
—	2	3	Sons of the Sea.....	hist-dr	AY
—	3	—	South of Santa Fe.....	mus-wes	AYC
—	6	4	Steel Against the Sky.....	mel	AYC
—	3	2	Stork Pays Off, The.....	com	A
2	6	—	Story of the Vatican.....	doc	AYC
2	12	4	Sullivan's Travels.....	com-dr	A
2	10	4	Sundown.....	war-mel	A
4	8	2	Suspicion.....	dr	A
—	8	1	Swing It, Soldier.....	mus-com	AY
7	8	—	Target for Tonight.....	war-doc	AY
—	6	4	Tarzan's Secret Treasure.....	mel	AY
1	12	2	They Died with Their Boots On.....	hist-mel	AYC
—	3	2	This Time for Keeps.....	com	AYC
—	7	4	Three Girls About Town.....	com	A
—	3	2	Thundering Hoofs.....	mus-wes	AYC
2	3	—	To Be or Not To Be.....	war-com-dr	A
—	2	1	Tonto Basin Outlaws.....	wes	AYC
—	3	5	Top Sergeant Mulligan.....	war-com	AY
—	3	4	Torpedo Boat.....	war-mel	AY
—	4	—	Tragedy at Midnight, A.....	mys	A
—	6	4	Treat 'em Rough.....	war-mel	AYC
—	5	1	Tuxedo Junction.....	com	AYC
1	6	11	Two-Faced Woman.....	rom	A
—	1	2	Underground Rustlers.....	wes	AYC
—	6	6	Unexpected Uncle.....	com	AY
1	11	1	Unfinished Business.....	com	AY
—	8	8	Unholy Partners.....	mel	A
—	7	2	Valley of the Sun.....	wes	AYC
—	9	1	Vanishing Virginian, The.....	com-dr	AYC
—	3	—	Voice in the Night, The.....	war-mel	A
—	4	3	We Were Dancing.....	com	A
—	5	7	Weekend for Three.....	com	A
—	1	4	West of Cimarron.....	wes	AYC
—	2	1	West of Tombstone.....	mus-wes	AYC
—	4	4	What's Cookin'.....	mus-com	AYC
—	4	2	Wild Bill Hickok Rides.....	wes	AY
—	4	8	Wolf Man, The.....	mys	AY
5	12	—	Woman of the Year.....	com	A
2	15	1	Yank in the R.A.F., A.....	war-rom	AY
—	5	5	Yank on the Burma Road, A.....	war-dr	A
1	8	8	You Belong to Me.....	rom	A
5	13	—	You'll Never Get Rich.....	war-mus-com	AY
—	7	7	You're in the Army Now.....	com	AYC
—	5	4	Young America.....	com	AYC
—	5	1	Zis Boom Bah.....	mus-com	AY